



**Champion of
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**Sid Meier's
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secrets**



**ISSUE 10
AUGUST 1992**

PC *review*

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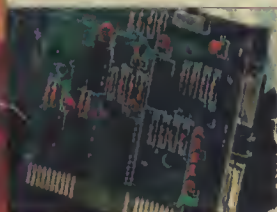
Making music on the PC: a starter guide



**Return of the
Leather Goddesses**



**Philips's CD-I
system**



**Fitting game cards
and joysticks**



**3D Construction
Kit II**



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The COMPLETE guide to PC entertainment



ROLE PLAY FOR PC

The Legend of Darkmoon continues

The famous role model for all AD&D® role-playing fantasies, the dreaded Temple Darkmoon is back.

More sinister, terrifying and haunting than ever. It will slowly weave into your sub-conscious and refuse to let go.



Through a clearing in the shadowy forest, a trio of towers rise menacingly into the night sky. You are on the threshold of terror, one wrong move and it's curtains. Finito.

The exciting sequel to Eye of the Beholder is here. Bigger. Better. And so realistic you'll keep looking over your shoulder.

The improved "point 'n' click" interface lets you come face-to-face with the most gruesome characters and complex clues.

In fact, you'll only want to stop playing this State-of-the-Art adventure game for one reason. To pinch yourself and prove you're not in the middle of a nightmare.

Available on: PC (EGA, VGA/ MCGA (256 Colour). 640k RAM and Hard disk required. Supports AdLib™, Soundblaster™ and compatibles). Amiga version coming soon.

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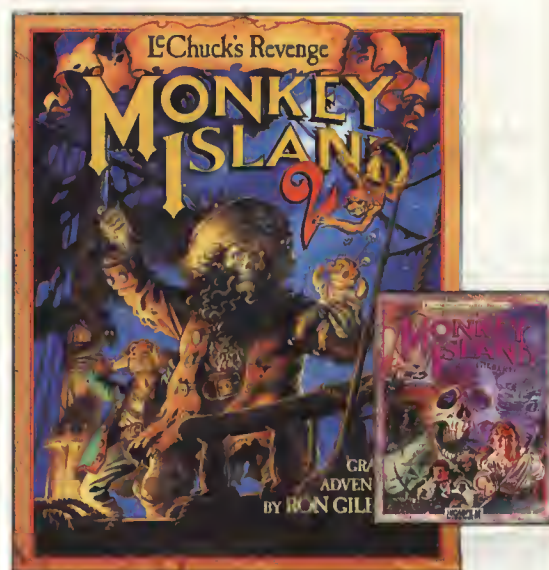


LAUGHS FOR PC

Side-splitting pirate adventure

Just when you thought it was the end for LeChuck, he's back.

The legend states that "when LeChuck wants you dead, you're dead" - grim news for his old adversary, young Guybrush Threepwood.



But fear not. Big Whoop holds the key to great power. All is not lost.

In this stunning graphic sequel, young Guybrush's adventures will have you rolling in hysterics. Beware, you'll laugh so hard, milk will flow from your nose.

Behind every pirate is a really gnarly chair and in front of Guybrush is a saga so savage it'll put hairs on your chest.

With 256 colours (PC version), variable difficulty modes, interactive reggae music and "point 'n' click" interface, you'll be transported to Monkey Island in a flash.

So, brace yourself, the fun starts here. Who knows when it will stop?

Available on: Amiga (32 colours) and PC (VGA/ MCGA. Requires 640k Ram AT or compatible. Supports AdLib™, Roland™, Soundblaster™ and SoundMaster™II sound cards. Hard drive required.

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A serious PC experience

U.S. Gold Ltd., Units 2/3, Holford Way, Holford, Birmingham B6 7AX. Tel: 021 625 3366

SPORT FOR PC

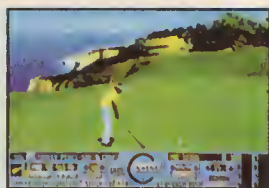
Play a round All year round

It's raining cats and dogs outside, but it's a beautiful crisp Spring day on the Torrey Pines Golf Course.

You approach the tee, driver in hand. Gazing down the fairway, you notice every feature of this classic Pacific Ocean Links course.



The Challenge of Golf takes you to a new level of realism. You can almost smell the grass, feel the silky putting surfaces and take in the fresh sea air. At times, you'll want to replace the divots, until you remember it's only a game.



But WOW, what a game!

And now, the 256 colour 3D graphics can be enjoyed on another six championship courses: Bountiful Municipal, Firestone CC South, Bayhill, Pinehurst, Barton Creek and Hyatt Dorado.

So, put on your sun visor and practice your swing. You're next on the tee.

Available on:
PC (VGA or MCGA,
640k and Hard disk
required. Supports:
AdLib™, Soundblaster™,
MSound™ sound cards)

Amiga version coming soon.



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FLIGHT FOR PC

A Simulation to take your breath away

Hard on the tail of Jetfighter I, the mind-blowing combat sequel is airborne.

Jetfighter II: Advanced Tactical Fighter shoots Top Gun down in flames.

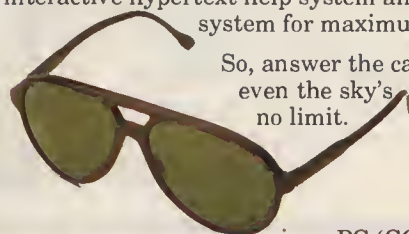


Strap yourself in as the most advanced and powerful 3D technology takes to the skies, with you as pilot whatever the time of day or night.

Revolutionary animation lets you see parachutes opening in the wind, radar chaff blooming behind your jet and feel the landing gear deploy and retract.

Dogfights take on a different dimension with real time artificial intelligence. Includes F/A-18 Hornet, F-16 Falcon and F-14 Tomcat.

Features instant flying mode for beginners, interactive hypertext help system and tunable joystick system for maximum response.



So, answer the call of the wild. Now, even the sky's no limit.

Available on:
PC (CGA/Tandy (4 Colour),
EGA (16 colour) VGA (256 Colour). 640k RAM
required. Supports AdLib™ and Soundblaster™
sound cards. Hard drive recommended.

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A serious PC experience

SCREENSHOTS ARE ONLY INTENDED TO BE ILLUSTRATIVE OF THE GAMEPLAY AND NOT THE SCREEN GRAPHICS WHICH MAY VARY CONSIDERABLY BETWEEN DIFFERENT FORMATS IN QUALITY AND APPEARANCE AND ARE SUBJECT TO THE COMPUTER'S SPECIFICATIONS



THE MUSIC MACHINE

The idea of making music on the PC is one that fascinates many people, who also find the apparent complexity and jargon involved rather daunting. With the idea of cutting through a lot of the acronymic baggage, we asked Rob

Beattie to put together a three-part series to making music on the PC, from the point of view of the beginner. In part one this month, he explains what sort of equipment you'll need to get started; in the next two articles, we'll get down to producing some real sounds. To paraphrase Rob's article, the PC won't turn you into Vince Clarke, but if you're tone deaf, it will help.

This month's First Steps feature looks at an area where there is much confusion: PC joysticks and joystick cards. If you're still stuck with keyboard control only for your games, take a look, and see how easy the upgrade can be.

All this DIY on your system and tedious 20-disk installation every time you want to play a new game seems primitive when you look at Philips' CD-I system. Compact Disc Interactive is a stand alone system using a CD-ROM unit plus your TV set and a remote controller. Although it's not PC-compatible, multimedia expert Tim Carrigan reckons that if compact disc storage is the future for PC titles, CD-I will be in there somewhere, as you can read on page 26.

We've got two updated pieces in this issue. The Classic Game Guide has been revised to take account of changing prices, and games which have 'acquired' classic status since it was first put together, and Peter Worlock reports on the new 'debugged' Falcon 3.0 on page 73.

Finally, I'm afraid that for reasons of space, we haven't been able to include our Shareware section this month. Normal service will be resumed next issue.

Christina Erskine

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24 SID MEIER TALKS ...

PC Review's Steve Cooke found the normally publicity shy Sid Meier in a forthcoming mood at the Computer Game Developers' conference in California, and asked him about life, the universe and Civilization.

26 COMPACT DISC INTERACTIVE

Philips' CD-I system offers "interactive television" with games and reference works on compact disc. Is this a rival to the burgeoning CD-ROM market on the PC? Tim Carrigan reports.

30 JOYSTICKS AND GAME CARDS

Adding a game card and joystick to your PC can greatly enhance your game-playing. Paul Presley explains how to make the upgrade and picks his way through the minefield of joysticks available to make some recommendations

COVER DISK 88 DISK 10

Fancy your chances as an Olympic athlete? Then now's your chance to prove your mettle, in the Diving event from Empire's International Sports Challenge. Alternatively, you can play the heroine for a change in the superb platform game Jill of the Jungle. In a more serious vein we have two excellent utilities; Easy Menu is the ideal way to start your programs, and CompuShow will display just about any type of graphics file you care to think of. Dig In, and enjoy!



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94 COMPETITION

Your chance to win an Amstrad 4386SX Family Pack worth £1,000: the complete works, and all you have to do is answer a few easy questions. We've also got some superb educational software to give away to runners-up.



COVER STORY

20 TURN YOUR PC INTO A MUSIC MACHINE

If you've ever fancied the idea of composing, editing, sequencing, or sampling music on your PC, but wondered what on earth all the jargon means, this beginners' series is for you.

In this, the first part, Rob Beattie takes you through the equipment you need to get started, shows you how to set up a suitable system, and explains what MIDI is, and why it's important to the potential music maker.



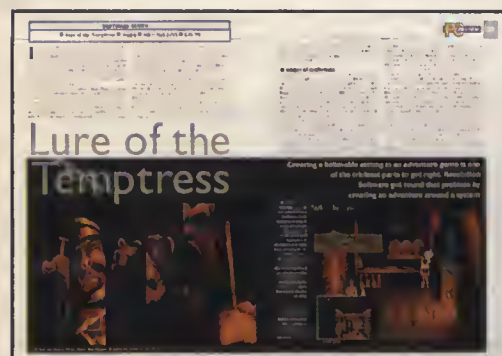
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The new Ambra range of PCs – IBM clones from IBM itself, and the Amstrad 4386SX Family Pack appraised.

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Incentive's respected 3D Construction Set is being upgraded and enhanced – we report on its progress so far. Plus role-playing in the shape of Legacy and Champions.



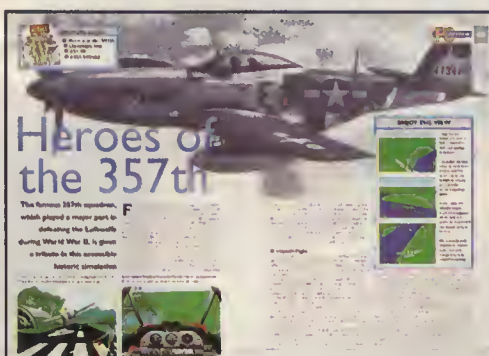
35 Reviews

Lure of the Temptress is finally here – find out if it lives up to pre-release hype. For some lighter relief, the fiendish Leather Goddesses are back in a second Steve Meretsky adventure.

76 Tips

We've got the first instalment of a comprehensive guide to Origin's superb Ultima Underworlds, and more on Star Trek and Heimdal.

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More tales from the PC's crypt.

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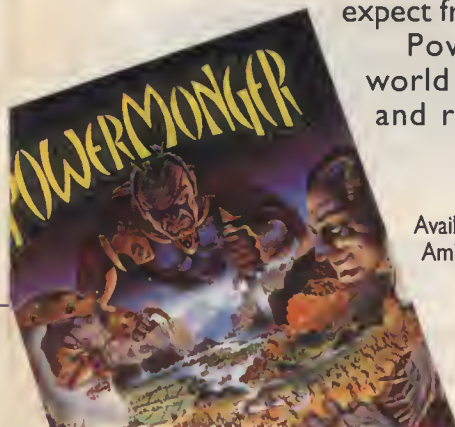
rain, where inventiveness and strategic skill can triumph over mere brute force.



Powermonger will test you to the limit, but don't just take our word for it, look at the ratings...

Ace...Ace rated 973, **CU Amiga...Super Star** 95%, **C & VG...C & VG Hit** 95%,

The One...95%, Zero Hero...93%, Generation 4...97%, Tilt...95%.



Available on IBM/PC,
Amiga and Atari ST.



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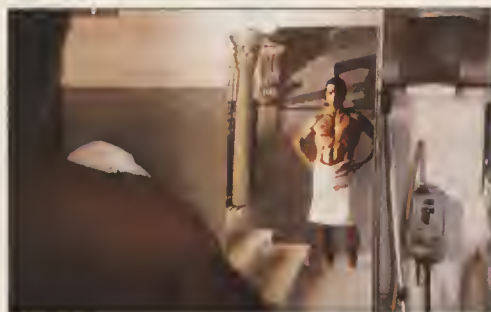
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News

IBM WORKS OUT TO COMPETE WITH ITSELF

You'll probably have noticed the fetching TV adverts where the work-out king is exhorted to "take his mind for a run" by now - but apart from the obvious attractions of the ad, is there anything else notable about Ambra, the latest IBM-clone manufacturer to offer 'low-cost' PCs to the market?

Well, just one thing really - Ambra PCs are the first IBM-compatible clones to be supplied by IBM itself! Although, like the majority of PCs, Ambra machines will be manufactured by third parties all over the Far East, they will be distributed by a new company, Individual Computer Products International (ICPI) - a wholly-owned subsidiary of IBM.



ICPI's general manager Alan Willsher says, "At the moment, many of them dismiss the lower reaches of the clone market as too risk. We want to change all this by creating the first low-cost brand with real credibility." All of which does tend to pose the question of where all those Amstrads have gone.

ICPI's opening range consists of two desktop models and two notebooks, with 486-based additions promised for later this year. The desktops go by the rather fetching handles of Sprinta and Hurdla and are both based on 386sx technology running at 25Mhz. Both machines sport 4Mb of RAM, while the Sprinta has room for up to 80Mb of hard disk, and the Hurdla can accommodate 160Mb. The major difference between the two is the Hurdla's 16K of cache memory.

ICPI can be contacted on (0800) 386 386, while those who actually wish to see the machinery first can check it out in branches of Rymans and Wildings.

All systems will come with Dos v5.0 and Microsoft Windows pre-installed, while those sold through dealers will also feature Microsoft Works and Lemmings. Prices will vary from dealer to dealer, but those going to Ambra direct can expect to pay between £885 (for the basic Sprinta model with VGA monitor and 40Mb hard drive) and £1,215 (which will get you a Hurdla with 160Mb drive and SVGA graphics), exclusive of Vat.

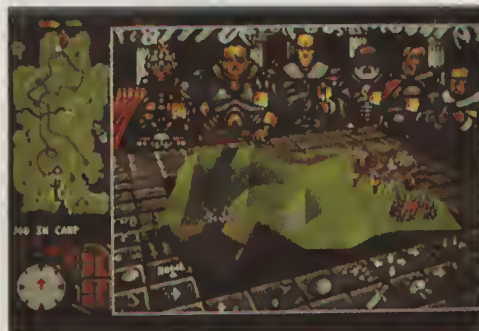
KUMA LAUNCHES HINT GUIDE

The ever-popular series of 'game guides' written by New Zealand games freak Dean Corish has now reached its third edition, with what's claimed to be the biggest hint book ever.

Published in the UK by Kuma, Corish's Computer Games Guide 3rd Edition boasts more than 12,000 hints, cheats, tips and pokes to give relief to the bewildered in excess of 1,250 games (including 200 adventures).

Although the book doesn't concentrate solely on IBM-compatible games, it does feature adventure game solutions particularly heavily, including those from Infocom, Lucasfilm, Magnetic Scrolls, Sierra On-Line and Mindscape. Other featured publishers include Psygnosis, US Gold, Ocean, and Renegade.

In particular, PC players can look forward to help and advice on Lemmings, Cruise for a



Corpse, Another World, Immortal, Wonderland, Elvira, Railroad Tycoon, Flames of Freedom and Powermonger.

Corish's Computer Games Guide 3rd Edition is available now from most software outlets, priced at £14.95.

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move

DIXONS MAKES SOUND DECISION

Sound card technology has made its first major leap into the high street, as Dixons has agreed to stock Creative Labs' Sound Blaster Pro in 15 of its stores, with a view to taking it nationwide eventually.

Dave Askew, director of Creative Labs' UK distributor, Westpoint Creative points out that this is the first sound card which the high street giant has ever stocked, continuing: "Hopefully they will be impressed with the trial and it could lead to us getting more of our products stocked - including the Video Blaster and Multimedia Upgrade Kit."

The 15 demonstration models (two of which will

be in Dixons' new London superstores) will run a continuous loop of speech, music and sound effects running on 386-based hardware.

● At the time of going to press, Creative Labs was believed to be in discussion with the Ad Lib administrators with a view to buying the rights to taking over production of the Ad Lib and Ad Lib Gold cards (see last issue for further details). The situation is believed to be complicated by the involvement of the Canadian Government, but hopes are high that all Ad Lib sound cards could be back in production in the near future. More news as we get it.

CORE CURSES PC FIRST

Although it's previously been known as an Amiga-specialist publisher, Core Design (Derby's finest, previously known for Corporation and Heimdall among others) will finally make the quantum leap to developing on PC first with its forthcoming role player/animated adventure, *Curse Of Enchantia*.

Currently on course for a September release, *Curse Of Enchantia* is, in the immortal words of Core's Richard Barclay, "A huge icon-driven epic of the Sierra On-Line/Lucasfilm ilk."

Work on the project is in the hands of two Core newcomers: Ian Sabine is taking care of the coding, while graphic artist Rolf Mohr is currently airbrushing the characters and backdrops, which will be digitised and incorporated into the game.

"We've carved a reputation for ourselves as a company which pushes the machinery we work with to its limits," says Barclay. "So we're really looking forward to seeing how we can exploit the possibilities created by the extra memory and 256-colour graphics capabilities which the PC is now capable of offering." Further details are available from Core on (0332) 297797.

CAPSTONE'S CHESS CONFIDENCE

US software publisher Capstone (distributed in Europe by Accolade, on (081) 877 0880) is so confident about the abilities of its forthcoming chess simulator, *Grandmaster Chess*, that it's prepared to put its money where its mouth is with an alarming "beat Chessmaster 3000 and Sargon V or your money back" guarantee.

In addition to offering this world-beating assurance, *Grandmaster Chess* also promises multiple 2D and 3D views, an array of different boards and pieces (including traditional, fantasy and mediaeval styles), five skill levels, 'help' and 'analysis' modes and a library of more than 100 classic starting positions.

The game itself is played via a series of pull-down menus (a mouse is therefore recommended), while moves can be instantly reviewed by use of a system of VCR-type controls. There will also be full printer support, allowing games to be printed out in either text or graphic formats.

"We designed this program to beat the competition," said Leigh M. Rothschild, president of Intracorp Inc., Capstone's parent company. "And

what better way to support our claim than to guarantee it? We will refund the purchase price to anyone who can beat *Grandmaster Chess* using *Chessmaster 3000*, *Sargon V* or any earlier version of those programs."

Hardware-wise, the program will require at least 640K of RAM and a hard drive. Super VGA, VGA and EGA are supported, as are the Roland, Sound Blaster, Ad Lib, Covox and Disney Sound Source standards.



LUCAS ANNOUNCES PROJECT X

Once more drawing heavily on its cinematic roots, LucasArts (formerly Lucasfilm Games) has raided the *Star Wars* hardware files to bring you *X-Wing*, a space-based flight and fight simulator which pitches you straight into the battle against Darth Vader and his Imperial Forces.

Following on from Lucasfilm's previous successful flight simulators, *X-Wing* puts the budding pilot through his or her paces in the Rebel Academy before dropping them into active duty defending the Alliance. Designed by Lawrence Holland and Edward Kilham, whose previous credits include *SWOTL* and *Their Finest Hour*, *X-Wing* will feature LucasArts' innovative (and, indeed, interactive) IMuse music system as well as the usual graphic and sound card support.

X-Wing will be ready for launch "in time for Christmas 1992" according to US Gold, LucasArts' UK distributor. Call (021) 625 3366 for further details.

VIRGIN GOES WEST

Virgin Games has continued its expansion into the United States with the acquisition of Westwood Associates, the critically-acclaimed PC developer responsible for a long list of classics including *Eye Of The Beholder* and *Dragon Strike*.

Commenting on the new deal, Virgin's US boss Martin Alper said: "The considerable growth of Virgin Games' North American and European factions in all areas of consumer software is largely due to the attention we pay to the quality of the development process – and Westwood are developers of the highest calibre. This important acquisition will ensure that our forward progress as a broad-based publisher will continue smoothly and that the synergy that exists between Virgin Games and Westwood will allow Westwood to venture further into CD-ROM and interactive media development with maximum creative control."

Which, presumably, means that he's pretty happy with things.

Despite the 'under new management' sign hanging over the door, Westwood will continue on as before, retaining its Las Vegas base and continuing to work on its latest project, *Fables & Fiends: The Legend of Kyrandia*.

There are no details as yet of a UK release. Light may be shed on the subject by calling Virgin on (081) 960 2255.

MICROPROSE OPENS IN THE NORTH

Having spent aeons confined to its sedate Gloucestershire village HQ in Tetbury, MicroProse is opening an office in Manchester and has acquired Leeds-based programming team Vektor Grafix.

Described as a 'development satellite', the Manchester office will house a team of 15 people, including artists, programmers and musicians. Commenting on his firm's new arm, publishing director Paul Hibbard said: "This office will give MicroProse the greatest development capacity in Europe. What's more, it will allow us to work with creative talent in the north of England."

Presumably as part of this policy of scouring the north for talent, MicroProse has also announced the takeover of the previously independent developer Vektor Grafix, a 3D specialist which made its name with such notables as *Bomber* (a multi-aircraft combat simulator for Activision) and *Shuttle* (Virgin Games' space shuttle simulator).

The pairing seems like an ideal match, as both firms have a strong track record in the 3D/flight simulator fields – indeed, Vektor Grafix is currently applying the finishing touches to MicroProse's forthcoming *Flying Fortress* simulation.

SEE THE WORLD THE US WAY

Although multimedia is constantly touted as the next great white of hope of PC gaming, in its current form the CD is best equipped for the storage and playback of large reference titles such as digital encyclopaedias.

To add to the huge library of such titles already available, Technomatic – on (081) 205 9558 – is releasing a range of CDs from US specialist, the Bureau of Electronic Publishing.

The first of these is CIA World Tour – a compendium of 'non-classified information' produced by America's favourite intelligence agency and used by all departments of the US Government. Fascinating facts throw up by this politically incorrect title include ... South Korea, with a literacy rate of over 90 per cent, is one of the fastest growing and most dynamic of the industrialising countries and is able to repay early some of its \$40 billion in foreign debt. Or ... Iraq had 2,193,448 males 15-49 fit for military service in 1989, 212,318 reach military age (18) annually.

Moving quickly along, Monarch Notes is a digital version of the series of study guides produced by American publisher Simon & Schuster. Monarch Notes throws some light on the scribbles of everyone from Wordsworth and Pope to Karl Marx and Aldous Huxley.

Similarly, US History On CD-ROM is a collection of 107 printed works, again stored on a single CD. Although this collection concentrates on military history, it also covers such diverse subjects as Criminal Justice - New Technologies And The Constitution and Skylab, Our First Space Station.

Like the CIA World Tour, US History complements its words with over 1,000 photographs and a series of maps and tables.

The military connection rears its ugly head one last time for the final disc in the series, as Countries Of The World is a direct descendant of the US Army Country Handbook series. Offering detailed information on over 190 countries and territories, compiled from government and embassy sources, the disc includes more than 6,000 pictorial images (maps, flags and tables).

All four discs are compatible with the usual CD-ROM standard, while the former pair also come in MPC-compatible versions which support Windows and its relevant multimedia extensions.

Prices for these titles start at £58 for Monarch Notes and the CIA World Tour (£62 for the MPC version), and move through Countries Of The World at £169 right up to US History at £243.

FOUR FOR ROM

The expanding, library of PC games on CD-ROM has grown further with the announcement of four re-releases – three from Mindscape and one from Virgin Games.

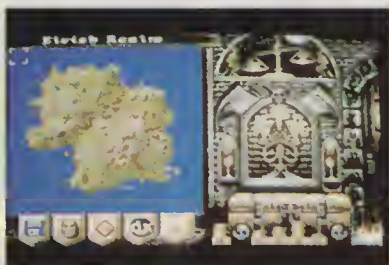
Virgin's offering is a CD pressing of the Graftgold strategy epic, Realms (rated 7 in Issue 8).

Like Realms, Mindscape's Three Sixty compilation offers nothing that hasn't already been available in standard floppy format. Instead, this single-CD pack features three military simulations from US war game specialist 360: Aces of the Great War, Das Boot (a multi-game U-boat simulator) and Megafortress, the recently-released high altitude bomber simulator.

Commenting on criticisms that the new package doesn't take

full advantage of the extra possibilities offered by CD-ROM's increased capacity, Mindscape's James Morris offered: "There are two ways of approaching CD-ROM. You can give it the full works with enhanced sound and graphics etc, or you can go for value for money. These games have not been greatly enhanced, but they're available at a very good price.

Realms is out now, priced at £34.99, while the Three Sixty Compilation comes in at £59.99.



ATAC



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If there's a modern military aircraft not included in Birds of Prey, it's probably not worth flying.

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flying a fighter or a bomber you can do it all in one game.

Each of the different mission types, ranging from Aerial Reconnaissance and Interception to Bombing Raids and Troop Drops is open-ended. The possibilities are unlimited.

Choose from a vast array of military might including the F-117A Stealth Fighter, the Tornado F Mk. 3, the BAC Harrier Gr Mk.3 and the Mig-29 Fulcrum, 40 planes in total.

Whichever you opt for, you'll be confronted by a frighteningly accurate simulation of state-of-the-art warfare.

And whichever mission you choose, you'll find yourself flying into a real-world environment of continuous action taking place on land and sea.

Before you take off however, you must plot the positions of your enemies and conjure up strategies to destroy them. Then you arm your aircraft from a bewildering array of hi-tech weaponry.

Once in the air, complex mathematics calculate the maximum limits your choice of aircraft could realistically attain, given it's weight, payload and aerodynamics.

Four years in the making, Argonaut Software have devised what Jez San describes as "the most realistic and dynamic world ever created".

Take off.

Available on IBM/PC and Amiga with 1 MB req.



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AMSTRAD'S 4386SX GAMES PC: THE PROS AND CONS

Way back in Issue 1, we featured an up and coming games-dedicated PC from Amstrad, the 5286. Containing a 14" Colour VGA monitor, a 40Mb hard drive, a 286 processor, an Ad Lib compatible sound board, speakers, a joystick and mouse and three respectable games, it was felt that while in general it was a fairly decent pack, there wasn't enough room for expansion and with the way games were heading, it wouldn't be able to keep up to the ever-increasing demands put upon it.

To combat this, Amstrad has released the 4386 Games PC at £999.99 (plus Vat) containing most of the same features, but with a 386 (20Mhz) processor, an 80Mb hard drive and 4Mb of expanded memory to help it out. Unfortunately, while this particular package sounds much better on paper, it does have several flaws to hold it back.

One is that the size of the monitor has been reduced from the 14" supplied with the 5286 to a measly 10", hardly the stuff epic space battles and heroic damsel rescuing is made of. To be fair, you can buy a pack with a 14" monitor for a higher price, but it would have been more preferable from the end-user's point of view to just stick with the one, larger size.

Speaking of size, while the smaller footprint case can be extremely handy from a storage point of view, it does mean that it cuts out any chance of installing,



say, a Roland soundboard (which in my mind would be one of the first upgrades to make) or any other full-size add-on board.

Another gripe is with the hard drive. 80Mb sounds like a lot, but some bright spark in the planning stages has decided to split it into three partitions of around 20-30Mb each. It is possible to use DOS 5 (which has to be purchased separately) to join the three together, but when you consider that the whole purpose of these games packs is to sell them to families unfamiliar with PCs, wanting to get a foot in the door. To

suddenly tell them that they are going to have to study DOS manuals and re-format hard drives is a little hard to take.

Something that really needed to be included with the pack but wasn't was a real beginners' guide to setting up and getting used to the PC. The actual manuals provided are the usual doorstop affairs, chronicling all the ins and outs of Windows and DOS and I really can't see little Johnny being able to pick it up and get going with ease (actually I can, it's the fathers I'm worried about).

Are there any good points to make? Well, as a games PC it does what it sets out to well and it did manage to run Wing Commander 2 (something I use to test out the capacities of any machine and not one of the games included in the pack) without too much trouble. I did have to alter the Config.sys and Autoexec.bat files to do so, mainly to get rid of the memory-hungry Counterpoint icon system.

The bundled games are identical to those found in the original 5286 Pack; they were well worth acquiring then, and still make an excellent introduction to the potential of PC gaming, even if it's a touch unenterprising to repeat the bundle.

Links from Access has rapidly become the standard for golf games, even managing to

surpass the legendary PGA Tour Golf. The thing about Links is that it always needed a pretty powerful machine to run on and unfortunately, the 4386 isn't quite powerful enough. The game works OK, but it still needs something faster to be able to fully appreciate it.

Prince of Persia is, of course, a classic in every sense. Platform games don't get much better than this and this really is a good way of showing off what a PC can do well. Finally comes F15 Strike Eagle II. This probably wasn't the best choice of flight simulators to include as the release of F117A Nighthawk and Falcon 3.0 really put it to shame. It's not a bad game, though, and it works fine here.

What Amstrad appears to have done is to design a PC that will support most of the standard games currently on the market, but once again it hasn't paid much thought to where they are going to go from here. The fact that the games supplied are exactly the same as the ones supplied with the machine released last year just hammers that point home. There are better games-dedicated PCs on the market and I really would recommend shopping around before you make your decision.

The Amstrad 4386SX Games Pack

20MHz 80386SX processor
4Mb RAM
80Mb hard disk
1.44Mb 3.5" disk drive
256K VGA card
10" VGA colour monitor
Ad Lib compatible soundboard
Amstrad speakers
Amstrad analogue joystick
Serial mouse

Prince of Persia, F15 Strike Eagle II, Links
Counterpoint
Windows 3.0
DOS 5.0

PAUL PRESLEY

JOURNEY TO THE HEART OF THE TOLKIEN TRILOGY

The Two Towers™

J.R.R. TOLKIEN'S
LORD OF THE RINGS

Vol II.

The legendary battle of good vs. evil begins anew in "The Two Towers". But this time you delve deeper into the enchanted world of the Middle Earth than ever before.

Take the Ring from Rauros to the edge of Mordor. Every step of the way will bring you face to face with orcs, elves, ents, trolls, ringwraiths and hobbits. Help defeat the forces of evil in return for guidance through mysterious forests, dark swamps and treacherous mountain passes.

To increase the challenge, use the new automapping feature sparingly.

While the new Cliffhanger will test your nerve to the limit, requiring you to control three parties at once, on three suspense-filled missions.

"The Two Towers" features 256 Colour VGA graphics, a complete musical score and digitised effects. And can be played as a game in its own right, or as a sequel.

Interplay

Distributed in Europe by: Electronic Arts, Langley Business Centre, 11-49 Station Road, Langley, Berks SL3 8YN, Tel: 0753 549442, Fax: 0753 546672

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Title: 3D Construction Kit
Publisher: Domark
Genre: Games Creator
Programming team:
 Incentive

Softography: Driller, Castle Master, 3D Construction Kit
Price: £TBA
Release date: early autumn

Radical update of powerful games creation utility



Six years ago, Incentive's spectacular 3D engine stunned the games playing world when it was used to create the strategy/exploration game Driller. Since then, Freespace has been at the heart of Darkside, Total Eclipse and Castle Master. The ageing system had its swan song in 3D Construction Kit, a utility that enabled you not only to create your own 3D worlds, but to animate them, or even make a complete Freespace game.

The big problem with the original kit was that, by the time anyone got around to creating games with it, Freespace was so old hat that nobody felt able to get particularly excited about any of them. Having

said that, the kit still sells and there are still people creating games with it. However, Incentive has not been idly resting on its laurels the company has listened long and hard to users of the kit, particularly those in the dedicated user group, and is now hard at work creating the sequel, 3D Construction Kit 2.

At first sight, nothing much seems to have changed bar the slicker looking menus and control panels, but spending some time exploring Kit 2 soon reveals a plethora of new and improved features. Not just your average washing detergent new and improved, we're talking real power here.

Firstly, you'll find you have a

couple of new elements to work with. Making your creations look a little less angular is easily achieved with the use of the sphere; an object you very rarely find in 3D games. The most fundamental departure, however, is in the appearance of an element that Incentive has termed a flexicube.

The flexicube, when first created, is just like any other box, only in its case you can edit any of the vertices to pull the cube into an infinite variety of weird and wonderful shapes. The availability of the flexicube is going to mean that future Freespace games look a lot less like Legoland and more like as though set in real places.

Manipulation of objects does not

stop there. Any object can now be drawn as a wireframe image, so you can create the sort of effect seen in Atari's Battlezone and Novagen's Mercenary. Transparent objects, it seems, are all the rage because you can now create glass effects by setting a variable fade factor. Using this, they can be made to appear anything from vaguely translucent to completely invisible (which is useful for creating force fields and the like). It is also possible to make objects change their opacity dynamically so they can fade in and out.

Editing the shapes you make is now much easier. The vertex you are currently editing is highlighted, and grouped objects can be listed

3D Construction



Objects can be given a fade factor to make them translucent.



The fade effect in action. The house gradually becomes more translucent as you watch it.



These are just four examples of the sort of complex shapes that can be created using the new elements available.

either as a group or individually. Furthermore, the information for all the objects is available all the time, and the setting up of an object is now achieved on a single dialogue box, as is the editing of instruments. Once you have the editor set up for the way you like to work, you can save the editor preferences to disk so that you don't have to spend time doing it on each occasion that you use the kit. One of the most useful additions in respect of editing is the option to name elements in the game, so you could directly refer to lounge and chair, for instance, rather than area03 and group15.

Kit 2

One of the most painful aspects of using the first kit was colouring objects and areas, but this has been simplified in the sequel; there is now a multi-level undo for colour changes and you can paint colours directly on the screen. A big criticism of the original kit was that if you wanted to create an effect like lights being switched on in a room, you had to create two versions of the room, one with lights on and the other with lights off. Now you can actually change the palette and on-screen colours through the Freescape Control Language.

Those of you who really did get to grips with the programming aspect of the first 3D Construction Kit will know how limiting the language could be on occasions, and will be pleased to know that FCL2 is a vast improvement. There are three times the number of commands previously available. You can now set up string variables, arrays, and long or short numeric variables. An equivalent of

the Basic Goto command has been implemented, which won't please lovers of structured code, although they will be heartened by the new use of subroutines.

Just when you thought Incentive couldn't possibly have added anything else, it hits you with Sprite Control! Yes, you can actually add animated bitmapped objects, not to mention multiple and animated borders. It doesn't end there either; FCL is capable of directly drawing simple shapes.

There will be some people, of course, that want to use 3D Construction Kit 2 simply to design their own 3D objects and worlds and explore them without having to get involved with the intricacies of FCL. For these people, Incentive has implemented a facility to set up movement between areas without programming. They will also find useful the recorder which records a sequence of events and then replays them at a variable speed; very handy for budding architects who want to create their own walk-throughs.

Sound has improved, too. There will be a much larger range of preset sounds and there will be a sound and sample bank editor of some sort, although Incentive hasn't yet decided what form this will take. Roland support in addition to Ad Lib/Sound Blaster is also a possibility.

3D Construction Kit 2, it seems, is going to offer more of everything: more objects, more object interaction, and if you want your own games to offer more, you can make them bigger by chaining datafiles! Compatibility with Kit 1 is achieved via an automatic data conversion utility, and Incentive plans to supply a simple data converter for porting 3D creations from one machine type to another.

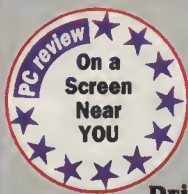
Finally, Domark promises an improved manual with several detailed tutorials and a better video to go with the package.

Free Lance Space Stud
needed to explore planet
of gender-jumping females!
Must be well-versed in
pick-up lines and pottery.
Call Colonel Stone at
Androgena-88781

Rex Nebular is on his way!

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SIMULATION • SOFTWARE
Seriously Fun Software

Rex Nebular is coming soon for IBM PC Compatibles.
MicroProse Ltd. Unit 1, Hampton Road Industrial Estate,
Tetbury Glos GL8 8LD. Tel: 0666 504 326



Title: The Legacy
Publisher: MicroProse
Genre: Role-playing game
Programming team: In-house
Release date: November
Price: £TBA

First person perspective RPG with a modern horror setting



The Legacy

What do you get if you cross Eye of the Beholder, Wonderland and Guest? Flight sim specialist MicroProse is hoping that the answer lies in its forthcoming horror-based role-playing game, The Legacy (recently renamed: its original working title was Haunted). Set in the archetypal old mansion, you find yourself face to face with ghost, ghoulies, zombies, mummies, vampires, wolfmen and a myriad of other assorted B-movie rejects and nightmarish creations.

The plot sees you inheriting an old mansion that holds a dark secret. An entity from a macabre dimension possesses the house and wants nothing more than to drive you out or turn you insane. It's quite possible for this to happen as, in keeping with all good horror RPGs, your character has a sanity rating as well as the usual energy and health bars.

Although the majority of the



game takes place in the house's corridors, there are plenty of large multi-screen rooms to explore.

Although the only time you see it scrolling smoothly is in the intro sequence, the fact that each of the

larger areas contains authentic furniture and decorations adds to the feeling of being in a real world

A bevy of beauties

The creatures of The Legacy are a wild and crazy bunch, ranging from the traditional ghosts and zombies to the more outlandish types, such as the axe wielding woman or winged demons. Here's a quick rogue's gallery:



as opposed to a fantasy dungeon.

The graphics are the true selling point of the game as not only are they some of the most detailed animations ever seen in a role-playing game, they've all been designed to create a dark and sinister atmosphere, set to scare the pants off the player. MicroProse hasn't gone overboard on the gore scenes, using them only at moments of extreme tension in order to help the atmosphere and carry the story.

One idea that's been well implemented and only seen in a very small handful of games before is the auto-mapping facility. As you progress through the house and its many hidden corridors, your progress is marked on an ever increasing map. As it's drawn it also scrolls keeping the player's position in the centre and allowing you to see as much of the surrounding area as possible.

Another almost-innovative idea is the use of a Windows-style interface, last seen in a games environment in the Magnetic Scrolls adventure Wonderland (this is

probably something to do with the fact that the game is being developed with Magnetic Scrolls). The main screen, the inventory, the automatic mapping facility, the compass and the options menu all appear in their own individual windows and can be re-sized and moved around the screen to give the player a set-up he or she is comfortable with. An interesting feature of the windows is that remote 'cameras' can be positioned throughout the house, each showing a similar view to that of the main one, allowing you to see when things happen in particular places of importance.

Naturally comparisons are going to be made between The Legacy and Virgin's spooky epic Guest, but MicroProse's offering has one main advantage – it's not a CD-ROM product. This means that it might be just the thing to keep all the non-CD owning PC users happy until they can make the upgrade and get scared by multimedia ghosts and goblins.

*Undersexed Women On Distant Planet
seek interstellar stud to inject excitement
into their population. Must have starship,
a lust for adventure and the right equipment.
Call Terra Androgena and leave message.
Two-minute men need not reply.*



The remote comero allows you to see what's happening in other areas of the house. So while you're being attacked by the mad woman with the axe, you're also keeping an eye on the ghost in the middle view.

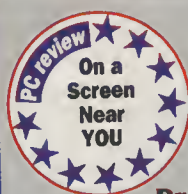


Although this shot is taken from the intro sequence, the actual in-game interiors for the rooms connecting the corridors are identical. The only difference being that it doesn't smooth-scroll.

*When Rex Nebular arrives,
they'll get all the excitement
they can handle*

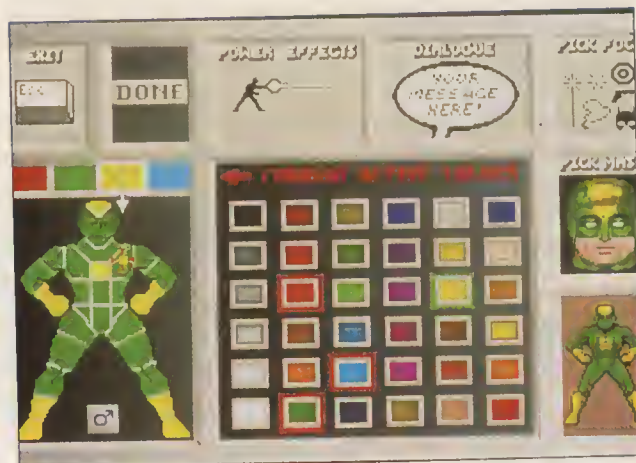
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Rex Nebular is coming soon for IBM PC Compatibles.
MicroProse Ltd. Unit 1, Hampton Road Industrial Estate,
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Title: Champions
Publisher: Konami
Genre: Role playing game
Programming team: Hero Software
Release date: TBA
Price: TBA

A long overdue RPG for would-be superheroes



As long as software houses have recognised and attempted to supply the obvious demand for superhero games, they have unfortunately failed to meet the expectations of avid Batman/Spiderman aficionados. The only appetising software on the market is aimed at arcade-game fans. But what about the gamers who really want to become a superhero as opposed to just controlling a sprite on a screen? To live out their fantasies through the medium of their friendly PC? The RPG is an ideal setting for fulfilling this wish, being the most suitable genre around to get you in where the real action is.

To date, the most suitable RPG has been the well received tabletop role-play system from Steve Peterson, George MacDonald and Rob Bell called Champions: The Super Role-Playing Game. This game, although recommended, takes quite a while to create a character and then the prospective player has to find a games master to provide a world for that character to live in. Hence the cry for a computerised version of the Champions tabletop system. Hero Software was set up for that very purpose and has sought the assistance of Konami to market the final game called — amazingly enough — Champions.

In a nutshell, Konami says that Champions allows you to "create a hero, interact with people, solve mysteries and battle super-powered opponents within scenarios in the finest comic book tradition."

The creation of the hero is a feature of the game. You can select a number of abilities and talents from a pot full of points. However, you can also obtain extra points to bestow upon your hero, with the caveat that he will also have to bear 'disadvantages' as a compensation — an excellent idea to counter the 'all-powerful' hero. These disadvantages can vary from medical to personality disorders. In addition, you are able to access a

paint program (which offers a palette of 32 colours) to adorn your superhero/heroine with a costume that will be truly bad for the eyes. Other 'design' features for your character will include the face-mask, weapons, special effects for using their powers and even a catchy catch-phrase which your character can exclaim as he/she dives into combat with the baddies.

Interaction between your hero and other NPCs triggers a conversation window that places the portrait of you and the chap you are talking to at the top of the screen. Scattered below are attitude buttons. You select an attitude you wish to adopt and the NPC reacts to it. Responses are shown via speech balloons.

The storyline itself is reported to be very open-ended in a soap-opera style. That is, the stories are,

apparently, linked together in a true comic 'issue' format. To further the longevity of this new system Hero Software is planning to release extra story modules in conjunction with Marvel and DC (and written by certain staff members).

Combat is rather different from your usual RPG. Konami says that combat "... offers more strategy than any other RPG. You can use over a dozen combat manoeuvres for precise tactical control of your hero. You can set your defence and offence, adjust the level of every power, make your moves and choose your targets."

Manoeuvres include blocking, brace, disarm, dive for cover, dodge and so on. However, the most potentially exciting aspect of the combat system is the graphic presentation. You will be shown

every sizzling energy blast and combat manoeuvre in true comic style. Hero Software has employed the talents of comic artists such as Frank Cirocco and Chuck Austen in an attempt to turn the animated combat sequences into true cartoon/comic events.

Technically speaking, you will need 640K of RAM to play Champions and all popular soundboards will be supported.

At the moment Champions is expected for release later on in the year. No definite decision has been made about distribution in the UK. However, there is a good chance that this could be the very first comic-related game to actually hit the heights, so to speak. Let's hope Konami make the right decision and brings Champions to our shelves.



Darklands™

The Journey of a Lifetime



In Medieval Germany, reality is more horrifying than fantasy

Deep in the twilight of the Black Forest, you and your companions crouch before the robber-knight's tower. Hans the alchemist, places a mysterious potion by the heavy oak door. Ebhard the monk implores Saint Dunstan to bless your weapons and armour. Gretchen and you unsheathe your broadswords ready to jump into the fray.

With a thundering crash, the door explodes into fragments. You and your companions charge inside swinging swords and maces from side to side.

Gerhard the Red Wolf, the infamous robber knight waits for you surrounded by his evil henchmen. They are ready with weapons drawn. Suddenly, Hans tosses a choking potion into their faces, they reel from the effect and in that precious moment you race into them. The lonely tower, set deep within the vast Black Forest, echoes with the sound of clashing steel.

Darklands. The first realistic fantasy role-playing game. By leading a band of adventurers across the sinister lands of 15th

century Germany you'll encounter the real Middle Ages steeped in fear, myth and legend. Travel hundreds of miles, visit over ninety cities and watch savage battles unfold before your eyes!

Your quest, or series of quests, may take you through raucous city streets, down deep dank mine shafts or into witches' covens in search of fame and fortune. So prepare yourself for the wonders and mysteries of Darklands!

MICROPROSE

Darklands is available for IBM PC compatibles.

Look for the box in all good software stores or telephone now for your free MicroProse Catalogue. 0666 504 326.

COVER STORY

You can use your PC to create music to rival the chart-toppers, and it's no longer a prohibitively expensive option. Rob Beattie introduces the first of a three part series on making music on your PC.

The m



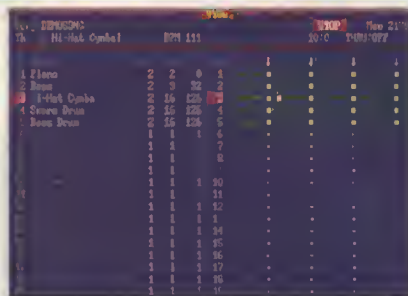
Music machine

Any lout – it seems – can make music. The airwaves are full of it, the clubs throb to disposable masterpieces created on Friday night, danced to on Saturday and happily dumper-bound the following afternoon. Technology means that speed (the behavioural state rather than the substance) is king, and the new music is sampled, created, recorded on disk and whacked out in a matter of hours.

It's so fast that it doesn't matter what's in or out, and it's thankfully so outside the conventional music business that the record companies still haven't really got a handle on how to exploit it. But one thing is certain, the people who are doing it, rarely do it on PCs. That's because, traditionally, the Atari ST has dominated the UK music market by virtue of its price, and the fact that it comes with all the hardware required to connect to an electronic keyboard (though in the US, the Mac is more popular). The PC has previously been too expensive and therefore attracted few of the developments necessary to turn it into a machine capable of running an electronic music set-up.

Two things have changed this: the price of PCs has fallen like a stone, and the arrival of Microsoft Windows has allowed software authors to produce the kind of visual programs that are best suited to creating, editing and recording music.

The aim of this, the first of a three part series, is to explain how almost anyone – and I mean almost anyone – can use an IBM-compatible PC to help write, record, and print out music. On the way we'll cover the basics of the Musical Instrument Digital Interface (MIDI) and how it applies to PCs, examine the hardware you need, look at the software you can get for recording music and printing it out, look at



SP Junior is the sequencer that comes with Sound Blaster Pro. While there's a lot to it, mouse support is poor, and the program is awkward.

some low-cost keyboards and other boxes which will actually generate the sounds you'll be recording, and finally spend a little time talking about the cheap multitrack tape recorders that will allow you to combine your electronic music with live instruments like guitars and vocals.

This month, we'll concentrate on getting the necessary introductory stuff out of the way, but I'll also be looking briefly at a typical starter system. For those easily confused by technical terms (like me) there's also a short MIDI/electronic instruments primer.

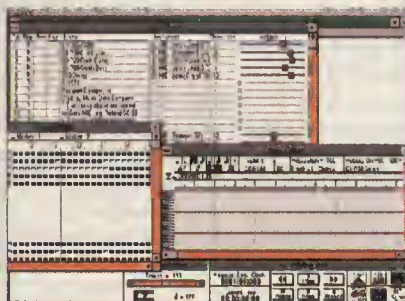
No two ways about it – MIDI can be a bit of a nightmare. And anyone who tells you otherwise is pulling your plonker. The reason it's a nightmare is that it's essentially a communications interface – like a local area network for personal computers and electronic keyboards, drum machines and sound modules. The idea is that keyboards (from now on I'll use keyboards to mean any musical device that can produce sounds, like a drum machine or a synth module) from different manufacturers can exchange musical information with each other without worrying about formats, proprietary interfaces and so on.

Why do it?

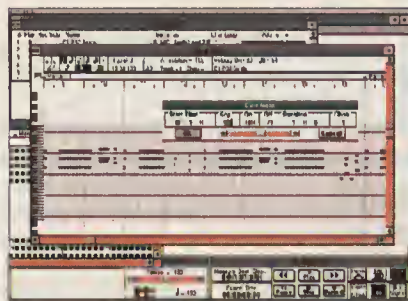
If you're performing live on stage, then it's useful to access as many different sounds (and kinds of sounds) as possible – more for example, than can be held on a single keyboard. Trouble is, if none of the instruments can 'talk' to each other, you have to have one of each, you have to be able to move between them, and each one has to have a playable keyboard (and you have to possess deep, deep pockets). MIDI does away with all that. Using a single keyboard, it's possible to control any number of modules (ie, synthesisers without keyboards) from a single keyboard. You can access them separately, or have them play in unison to get those really fat, bowel-threatening sounds. Note, though, that in reality, the most modules you'll want to control is about five because after that, they'll be exchanging so much MIDI information that they're likely to get clogged up – like too many people speaking at once on a telephone.

Additionally, because MIDI doesn't care what kind of device you're using (so long as it has proper MIDI sockets) you can control sound modules with instruments other than a keyboard. Guitarists can use a MIDI pickup, and there are numerous electronic pads for drummers, and controllers for people who play wind instruments (some like the sadly discontinued Casio Digital Horn can still be picked at music shops for less than £100). Thus, a very ordinary strum, or an innocuous toot on an 'E' major can become a large and frightening orchestra hit with a few fuzz guitars and a couple of banjos thrown in to really confuse the audience.

For our purposes though, the MIDI fun really starts when you hook a couple of instruments up to a PC which is running a sequencing program.



The Trox sequencer with all three windows open – Track List, Song Editor and Step Editor. Note the tempo controls at the bottom left and the Conductor slider bar which can alter the tempo of a recording.



The Step Editor: on the left is the piano keyboard, and the horizontal block lines are the octavo notes played. These can be 'picked up' using the mouse and moved, or you can edit the characteristics of a particular note as we're doing here.



In the Song Editor we've marked a series of tracks (the little rectangles) that we want to edit. In this case, we're going to quantise them to make sure that all the tracks are in perfect time and the performance another flowless one.

In this scenario, you use the PC and sequencer like the world's cleverest tape recorder, and although there are a number of these available running under DOS and Windows, they behave in essentially the same way.

You set the software to record and a little metronome starts up (either using the PC's own squeaker, or you can have one of your attached instruments provide the metronome and play it out over your hifi speakers). As you play the instrument, the sequencer can record not only the notes you play, but other information like how hard you hit the note, and how long it lasted. Once you've finished playing a passage, stop the sequencer and store what you've done on disk for safe-keeping. Now you can go on to record the next part of the song.

Let's say you've recorded a piano sound and you want to add drums. You 'rewind' the sequencer to the beginning, choose a different track, and start to record again. Only this time, as you play the drums (either by tapping the pads on the drum machine itself, or hitting keys on a keyboard controlling the drum machine through MIDI) you'll also hear the piano you recorded earlier playing along with you. (Playing a drum machine from a keyboard through MIDI is a bit difficult to get your head round at first, but it sort of makes sense. You 'map' the drum sounds to different notes on the keyboard so when you hit a 'C' you get the bass drum, a 'D' gives you a snare, and so on. In this way you can actually set up four or five different drum 'kits' up the keyboard – one per octave – and it's actually a lot easier to hit a key than one of those little drum pads.)

Save both recordings, and you can then go on and add a third instrument, then a fourth, then a fifth, and so on. If you make a mistake, you can either re-do the whole track or just 'drop in' to correct the duff notes (sequencers can be set to automatically start and stop recording very accurately, so you can concentrate on playing the correction without worrying that you'll accidentally overwrite good notes at the end). If you want to do a solo, but you're a bit useless, fine – just slow the speed of the sequencer right down, play the solo at a snail's pace, then speed it back up to normal when you want to play it back, and no-one need ever know, heh heh. If you put in a wretched drum

A typical system

Our ideal music machine will also double as a 'real' PC (handling more mundane things like word processing) as well as being able to play games. It should also be cheap.

For this series, I decided to go slightly upmarket from my recommended minimum £900 system and use a 25MHz 386SX from Twinhead with a street price of around £1,200. It's one of a new breed of realistically priced systems with a good specification – 105MB hard disk drive, super VGA, 5MB of memory – and has more than enough poke to sit at the heart of a MIDI music set-up. It also has four free AT expansion slots, though disappointingly, no mouse.

Despite the fact that there are some astonishingly cheap 286s out there, I wouldn't consider them for two reasons. First, the 386SX is so much faster and better at using memory, and second, you'll need one to run Windows properly.

Super VGA is a real bonus for music applications, since it's always useful to see more on the screen, and the 800 x 600 resolution offered by the Twinhead's Trident VGA controller gives a crisp picture, and the monitor's nice and contrasty. Unless you're really strapped for cash, there's little point in not buying a system with super VGA, since it's so much more practical.

For the MIDI hardware end, I used a Sound Blaster Pro card which comes with its own MIDI kit. Basically, the circuitry for the MIDI interface is already on Sound Blaster Pro, and this just adds the appropriate MIDI IN and MIDI OUT connectors. Once installed, the card worked well, but the instructions for setting the whole thing up are unnecessarily complicated (it goes



straight into interrupt requests, DIP switches and registers) and the manual needs to be updated to relate directly to Windows 3.1 instead of Windows 3.0 and the multimedia extensions.

The whole lot comes bundled with Sequencer Plus Junior, a DOS-based program from Voyetra, packed with features (some of them quite advanced) and on the face of it, good value. At least it would be if it wasn't so awful to use.

The real problem is that DOS isn't a great environment for writing music programs, because the best ones use visual metaphors for editing and recording. SP Junior tries to

performance, and then use the sequencer to 'pull' every late or early beat exactly back into time. In fact you can produce something so inch perfect that some sequencers have a 'humanise' option which introduces tiny imperfections and slips in the beat so that it sounds more like a 'real' performance.

Fine, so what do these MIDI connections look like and does it matter which one you buy? So far as instruments go, simply look for three sockets on the back of whatever you're buying labelled MIDI IN, MIDI OUT, and MIDI THRU and you can't go wrong. The labels mean the instrument can send

and receive MIDI data and also pass MIDI data through to another, third instrument. To make the connections, the MIDI OUT from the PC goes to the MIDI IN on the keyboard, and the MIDI IN on the PC goes to the MIDI OUT on the keyboard. (We'll deal with some typical set-ups next month along with MIDI THRU.)

At the PC end, you'll need an expansion card with MIDI ports on it like the one you get with Westpoint Creative's Sound Blaster Pro or Zone Distribution's Intro Plus. The obvious advantage of using Sound Blaster is the wide range of games that support the card's built-in stereo FM

Yes, but what does it all mean?

Synths, modules and sequencers have a lingo all their own. This will get you started. More next month.

● **MULTI-TIMBRAL** – capable of playing back more than one sound at a time. A typical multi-timbral keyboard will be able to play eight different sounds, plus drums at the same time.

● **POLYPHONIC** – able to play more than one note at a time – early synthesizers were monophonic, and could only play a single note at a time.

● **POLYPHONY** – usually associated with a number, ie, 24-note polyphony. It refers to the total number of notes that can be played at any one time. For example, if you've got a multi-timbral

synth and you try and get all eight sounds to play the same six note chord at exactly the same time, on an instrument with 24-note polyphony, you're going to run out of notes and some of them simply won't sound.

● **PUNCH IN/OUT** – lets you correct the wrong notes in a recording without having to re-do the whole part. The sequencer starts recording at a specified point and then stops automatically at another. Thus you can simply change a 'D' to a 'D sus4' without having to replay the whole chorus.

● **QUANTISE** – devilish method by which a sequencer takes out of time playing and makes it perfect. Very useful for tying bass and drum lines together, and just great for us non-drummers.

mimic these and includes many of the features associated with graphics-based MIDI sequencers (piano roll and other visual editing features) but it's really awkward to use. The second drawback is that SP Junior's mouse support is so non-standard – to access menus you hold down both mouse buttons, there are areas of the screen that the mouse cursor can't even move into, and despite using its own funny graphics mode, the cursor appears not as an arrow, but as a rectangle.

For software then, I used the cheapest Windows sequencer I could find, Passport Designs' £69.00 Trax, which is capable of recording up to 64 tracks and distributed by PC Sources.

If you check out the screen shots that go with this article, you'll see that it feels like a much more expensive program. The controls for playing, rewinding, fast forwarding, recording and so on, are set out like those on a conventional tape recorder and can be controlled directly from the keyboard or with the mouse. Here you can usefully elect to have the 'tape recorder' automatically return to the beginning each time you press stop, and set the kind of metronome or click you want to hear to keep you in time when you're recording. Next to it is the Conductor which lets you adjust the tempo of your recordings. Obviously you click on and drag the slider to adjust the speed of playback or recording, but there's also an option to increase the speed over a specified number of bars so that the song starts slow and then gradually speeds up.

The Track Sheet lets you define the name of the instrument you're recording as well as the MIDI channel it plays back on (we'll discuss channels next issue); you can also 'loop' sounds here so they play a phrase, and then automatically go back to the beginning and play it again without missing a beat – very useful for drums and rehearsing; there are slider controls for adjusting individual volumes; and you can mute individual tracks so they don't play back, or solo one so that it plays alone.

You make major editing changes in the Song Editor which lets you move groups of notes around rather like paragraphs in a word processor. You can also change the MIDI information which relates to an entire track (perhaps to make it louder or softer, or transpose it to a different key) or to insert measures across all the tracks (to introduce two bars of silence before that final chorus-from-hell).

The Step Editor lets you edit individual notes as if they were words in a document. To the left of the screen shot you can see what looks like a piano keyboard. It is. In the middle of the screen are long black lines, which are the actual notes being played – the longer the line, the longer the note is held. Trax allows you to move or copy individual notes by simply picking them up with the mouse pointer, and dropping them down somewhere else. It's not as clever as some of the more sophisticated (and expensive) sequencers like Steinberg's Cubase, but it's sufficient for basic editing, though the lack of an undo in step edit mode is unfortunate, as is the absence of an overall Help system.

Although what I've described is a starter system – certainly in terms of software – it'll do a lot of damage, and the combination of the Sound Blaster card and Trax will allow you to make some sophisticated recordings.

The bit for those who know nothing.

1. If you want to buy a single keyboard and hear it play more than one sound at a time, it must be multi-timbral.
2. Buying a MIDI interface for the PC isn't enough – you have to have the software to make it do anything.
3. In order to make and play back sounds you need something to create them in the first place – usually a synthesizer – connected to a stereo system, or headphones.
4. In the same way as a painting program won't turn you into Andrew Wyeth, a MIDI system won't turn you into Vince Clarke – though if you are tone deaf, and have no sense of rhythm, it will help.
5. Synth demos are supposed to sound great. Make sure you listen to the simple sounds, piano, bass, strings, that you'll want to use all the time. And listen to them without reverb, chorus or any other snazzy effects.
6. Haggle for music gear. Always.

synthesiser. On top of that, you'll need some software in order to record your music, print it out, edit it, or whatever. In other words, if you're starting from scratch, your shopping list looks something like this:

■ a 386SX PC with enough poke to run Windows, ie, 2Mb of memory, an 80Mb hard disk, and colour Super VGA. This should knock you back around £900. (Why Windows? Because it's a much better envi-

ronment for music software, and because I think that DOS sequencers are horrible. DOS is not the proper environment for doing graphical things – look at the screen shot of SP Junior, and you'll see what I mean.)

■ a MIDI interface. Almost any will do, though Sound Blaster has obvious advantages because of its support in the games world. Price for the board, MIDI kit and SP Junior sequencer is £233.83. Zone

Contacts

Apple on (081) 569 1199
Atari on (0753) 533344
Casio on (081) 450 9131
Evenlode Soundworks (distributes Cubase) (0993) 898484
Korg (081) 427 3397
PC Services on (081) 658 7251
Roland (0252) 816 181
Twinhead on (0256) 811366
Westpoint Creative on (0743) 248590
Yamaha (0908) 366700
Zone Distribution (081) 766 6564

Distribution sells a card on its own for as little as £69.

■ a sequencing program. Something like Trax for Windows is only £69.00.

■ a multitimbral keyboard. No rights or wrongs really. Pick one with MIDI sockets, and then see if you like the sounds. Beware however, some of the more expensive synths have got these fantastic king-hell sounds which are actually lots of sounds, layered together. Make sure you actually hear the 'raw' sounds because then you'll have a clearer idea of what you're getting. Most will incorporate drums as well. Prices go from about £199 upwards.

■ two good MIDI cables, headphones, or jack leads to connect to your stereo. Buy the best you can afford. Sennheiser make great, cheapish headphones, and they're available from music stores and good hi-fi shops.

If you're going to be recording instrumental music, that's all you need to begin with, because you can use the sequencing software to balance the different instruments, and then either play it through the stereo directly from the computer, or record it on to a standard cassette. SAX or SFX probably give the best results, and you shouldn't use anything over a 60 minute tape because the longer ones tend to stretch after a while.

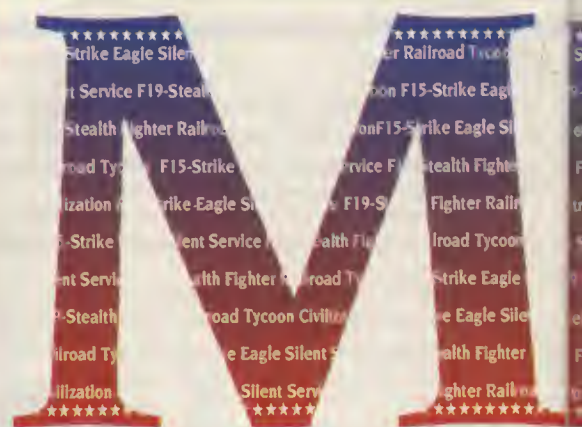
If you want to record vocals or perhaps guitar, things get a bit more complicated and expensive, and you need either a mixer to take the input from the keyboard/computer as well as from a guitar or microphone, and so on; or a multi-track tape recorder which will allow you to record a number of different sounds on different tracks and includes a little mixer.

Next month

The MIDI spec in more detail and what you can do with it, recording and sequencing software, and low-cost keyboards using an example PC set-up with a touch more poke about it.

SPECIAL

Sid Meier already has his place in PC gaming history booked and reserved, as the designer of F-19 Stealth Fighter, Railroad Tycoon and Civilization, among others. Steve Cooke met him at the renowned Computer Game Developers' Conference in California and talked to him about his craft.



The Computer Game Developers' Conference got off to a modest start in 1987 when 20 people debated the fate of the art at Chris 'Balance of Power' Crawford's house outside San Jose. It has grown steadily each year, and this year's gargantuan binge at the Westin Hotel in Santa Clara attracted over 600 designers, programmers and producers.

What ensued was games, games, games, over 60 hard-core sessions on everything from the art of FM synthesis to the applications of TV scriptwriting techniques to game structure. Or the Montessori Method as a model for game design, or an overview of compression technology; or self publishing.

In the thick of all this at the Westin Hotel was Sid Meier, who is responsible for Red Storm Rising, F-15 Strike Eagle, F-19 Stealth Fighter, Silent Service, Railroad Tycoon, and, of course, Civilization, in the MicroProse canon. "We have a big problem as game designers," began Sid. "The problem is that we don't know how large the potential market for our products is. We can basically do one of two things — write games for the people we know or the people we don't know, for people who are already playing games or for people who aren't. I tend towards designing for people who are already playing. In fact, I design games for myself."

Sid compares himself with Brian Moriarty, who designed Loom, a game avowedly crafted with the games novice in mind. But Sid's not an evangelist, he's preaching to a converted audience of equals.

"I played a lot of board games when I was younger," he explains, "and then I got interested in designing them. But as soon as the computer came along I realised here was an opportunity to interact as opposed to just sitting back and going along with what other people had done."

HELLCAT ACE — SID MEIER'S FIRST GAME

His first game was designed for a bet — or so the popular, though possibly apocryphal, story goes. Sid and Wild Bill were visiting a video arcade back in the beginning of the 1980s, when, emerging from a dogfighting flight simulator, Bill bet Sid he couldn't write a more exciting flight 'n' fight game himself. Sid called his bluff and promptly went home to write

Hellcat Ace — the program which launched MicroProse Software. One gathers that it did take him somewhat longer than a week, though.

His credentials for writing the first game include a degree in Computer Science from the University of Michigan, and experience in playing games on and programming the vintage Atari 800.

Since Hellcat Ace, Sid Meier's games have sold over two million copies worldwide.

FEAR

- a very Civilized games designer

Now, however, Sid isn't particularly interested in wooing new audiences by moving over to consoles or other machines. "I feel very comfortable with the PC right now," he says.

"Five years ago, however, it was very different — there were four or five different platforms you had to develop for. Now I really appreciate that there's only one. And it's developing: we're constantly able to upgrade our products and give the player higher stimuli — better pictures, better sound."

Better sound? On the PC? "OK, sound is a limitation. However, there are now at least four good soundboards on the market and although we support them we don't make it essential for the player to have one. You can always present the same message graphically. On the PC, we tend to use the sound mostly for effects. It can, however, be very useful. Take Red Storm Rising, for example, where you listen out for another sub-

marine using the sonar."

"I work pretty much on my own as far as the programming is concerned. The artwork and sound are done by other people. I also have assistants working on research and coding. As a rule, I have a general idea about the game and the others help to fill in the details. For example, in Civilization the researcher pinpointed a lot

"Choosing what to do next isn't easy. Civilization was such a big game, it's hard to find a topic that doesn't feel as though I'm going backwards."

of ancient cities, wonders of the world and suchlike."

No doubt about it, Sid's a confirmed PC fan. He's not even allowed himself to be wooed by the prospects of CD-ROM and other newfangled kit. "What's more important is that, hopefully, us designers will learn more about what makes a good game. I believe that games will get better in an evolutionary fashion — I don't see them as suddenly taking a quantum leap. Nor do I think we're hampered by a medium like the PC. OK, there are things

that could be better, but I'm not tearing my hair out."

And talking of good games, how does he come up with them? "Railroads," he replies by way of example, "were something I dug up from my childhood. I think Railroad Tycoon was probably triggered by Sim City. I liked that product because it tended to deal with construction as opposed to previous games that had concentrated on destruction. Choosing what to do next isn't going to be so easy, however. Civilization (his last title) was such a big game that it's hard to find a topic that doesn't feel as if you were going backwards."

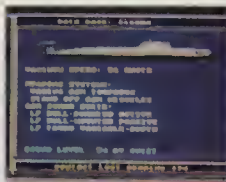
"Once I do get an idea, it usually takes me around a year to complete the game — Civilization took rather longer. At the beginning it's usually just me, but by the end there are probably ten of us on a project, so a game like Civilization represents around four to five man-years of work. I write in C. The programming process is basically a continual cycle of implementing a new feature, testing it out, and then adding another one. C is pretty good for that way of working — it's a very interactive process and it's easy to put something in and then take it out again."

And what's he working on right now, Civilization being such a hard act to follow? "Absolutely nothing! I'm going to take it easy for while!"

F-15 Strike Eagle



Red Storm Rising



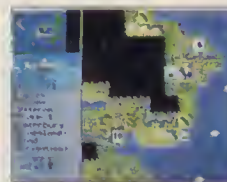
F19 Stealth Fighter



Railroad Tycoon



Civilization



SPECIAL

Philips has finally launched its Compact Disc Interactive system, and launched 35 software titles for the machine. Could this be the educational software platform that parents have been looking for? Tim Carrigan considers CD-i's potential.

CD-i: a

The recent launch by Philips of the first Compact Disc Interactive (CD-i) player will create a dilemma for many PC owners, especially those considering upgrading their machines with a CD-ROM drive. For CD-i, Philips plans to offer a wide range of home reference, education and games titles, in short all the areas where CD-Rom for the PC has begun to establish itself.

CD-i has been developed by Philips in the hope of establishing a world standard for multimedia publishing on compact disc (another Philips's protégé), in the same way that CD is now universally used for the commercial distribution of music. Philips has been working with both Sony and Matsushita – the parent company of the powerful JVC and Panasonic brands – to ensure that CD-i gets the widest possible support for the consumer electronics industry.

As well as many other consumer electronic firms, both Sony and Matsushita (under its Technics brand) are expected to launch CD-i players in the next 12 months. Sony and Philips have already publicly shown hand-held models, Philips says that its version will be released by the end of the year. Just when other makes of CD-i players will become available is not yet clear, but many are speculating that much depends on the level of enthusiasm that Philips can create with its own initial marketing campaign.

For the moment, there is just one player available, the Philips CD-i 20S machine, which can be found in high street stores across London in such up-market retailers as Harrods and Peter Jones. By September, Philips say that its CD-i player will be available across the country for a wide range of consumer electronics retail outlets.

The 20S machine, like any CD-i machine, is basically a computer boxed up to look like anything but a computer. Inside the sleek exterior are the same gubbins that drive popular home and business computers, along with that all-important CD-ROM drive. For those with a technical bent, the machine's central processing unit is the Motorola 68000 also used in the Amiga S00 and the Macintosh Classic, with the rest of the circuitry provided by Motorola which has an alliance with Philips to develop silicon for the CD-i players. The machine has a 1Mb of RAM and runs a realtime operating system called OS/9, renamed for CD-i as CD-RTOS (Compact Disc Realtime Operating System).

Not that you'd know any of that from



the outside as the machine bears a striking resemblance to a normal CD player. The controls, kept to a minimum, are very simple, with buttons for play, stop, advance a track, open/close, volume and power on/off. The player can be connected both to the TV set and to your stereo stack and the machine can also be used as a standard CD audio player. The TV connection is via an RF lead, and S-Video socket is also provided. Connection to the stereo is via standard phono to phono leads.

The player has no keyboard, but is controlled instead by a two button mouse or joystick. Philips has actually designed a range of input devices for the CD-i machine which include an infra-red remote control unit with a small pointer joystick, two buttons for right and left hand users, and buttons which mirror those on the actual player. Alternatively, there is the roller controller, a big track ball with two buttons that's designed to appeal to children and which connects to the player by a long cable. A joystick or a mouse can also be connected to the machine.

Retailing for just under £600, the system is comparable to the cost of upgrading a bog standard PC to Multimedia PC

specification which includes a CD-ROM drive, a sound sub-system such as the SoundBlaster or MediaVision audio cards, and SuperVGA. As the MPC is based on Windows 3.1, a 386SX with at least 2Mb RAM is also required, but it's widely acknowledged that 4Mb or 8Mb RAM would be more appropriate.

Given that the cost of an MPC machine and a CD-i player is about the same – which is true assuming that you have a PC to upgrade for the MPC, and that you already have a TV and a stereo for the CD-i system – the biggest issue that both these potentially rival systems have to face is software support.

CD-i is riding a double-edged sword here. On the one hand, the fact that the system is designed to integrate with your stereo system and that it can act as a standard CD give it an advantage over a PC CD-ROM drive, though a number of PC drives will play audio discs through your hi-fi as well. Yet CD-i is at something of a disadvantage when it comes to multimedia titles as it has a completely different operating system to any established desktop PC. This has therefore required the development of completely new titles,



potential PC rival?



as well as new tools, in the difficult and expensive environment that CD-i still is for programmers. Consequently, there are initially only 3S titles released with the 20S player, and all of them are funded in one form or another by Philips and released its the American Interactive Media subsidiary.

By contrast, the open nature of the PC architecture means that there are many more CD-ROM products available, and that making CD-ROM products is not a matter of telephone number figures. The down side is that very few of the products available for the PC really exploit the full potential of multimedia.

That CD-i has been targeted primarily at young, high-income parents is plain from the software catalogue. The largest category of discs are aimed at children, with such titles as Sesame Street, Cartoon Jukebox, Sandy's Circus Adventure and Story Teller.

In the Sesame Street title, for example, a child can take its own tour along Sesame Street selecting to visit the haunts of popular characters Count, Ernie and Bert, or Big Bird. In each location, there are educational games and exercises. Cartoon Jukebox is one of the most interesting titles in the children's collection. It allows a child to pick one of many songs, and then using a very simple paint system, allows them to colour in key characters in the animations associated with that song. At the end of the process, the animation can be played along with the music, with all the colours as the child has selected. The StoryTeller disc works similarly, this time allowing the child to assemble its own StoryBooks by first choosing a background and then adding the character, other props, typed narration and canned music.

One of the most highly developed titles is Sandy's Circus adventure, which has the same paint box system as Cartoon Jukebox, but with more colours available and a much larger number of characters to be painted. The title is also an attempt at interactive fiction as at key points the user can determine the direction of the story.

The real let down for serious games

players is the number and quality of games available for CD-i. In the initial catalogue, there are only five games, and their quality is inconsistent. At one end of the spectrum is the CD-i golf title, The Palm Springs Open, which uses the same course as its namesake. The game features real video players that you can manipulate with the remote control, and rather annoyingly repetitive commentary. While a golf game is nothing new, this implementation adds something to the genre, especially with the use of the full motion video players. Indeed, Philips is so excited about this idea that it has established a special group at American Interactive Media to publish other point-of-view games that use video characters, the next being a baseball game with real video pitchers.

At the other end of the spectrum is the strategy game Defender of the Crown, which is so poorly designed and implemented that it is rendered almost unplayable. Other games include CD-i Pinball, Connect 4, Battleship, all of which ape games available on other platforms.

The rest of the catalogue is given over to home reference and educational titles, many of the them aimed fairly and squarely at young culture hungry professionals. Van Gogh is a good example, as the disc is the multimedia equivalent of a coffee table book of the famous painter. The disc includes high quality representations of his paintings, as well as biographic details. Similar discs on the Renaissance of Florence, and on the Treasure of the American Smithsonian Museum are also available.

Given that it links with CD-Digital Audio (CD-DA) it should be no surprise that music titles feature prominently in the initial 3S titles. Titles such as a disc on Pavarotti, two discs of golden oldies Jukebox discs, and one disc of Louis Armstrong show off the music capabilities of the system.

Surprisingly, there is a dearth of how-to titles, as this is an area in which multimedia has already proved itself effective. The one disc of this type in the catalogue is the title developed with Time Life, based on its popular book on 35mm photography. The disc takes you through various exercises in each of the key areas, and using quarter screen motion video allows you to take a virtual picture of a moving object with camera settings of your choice. You then see the result as it would come back from the photo-finisher.

All in all, though, the CD-i software catalogue so far really fails to deliver anything

that made me feel that I really wanted or needed a CD-i player. However, the same is very much true for CD-ROM on the PC where there are few inspiring titles for the home user. Philips has yet to find the killer application that will define CD-i's success and push the system into the mainstream.

Philips has said that it will bring out a CD-i player with the ability to play full-screen full-motion video from a compact disc by the end of the year. Indeed, it has already shown this in operation and the high quality of the video has been universally lauded. This new player will not only make it possible to sell videos on CD-i – although this will be problematic as a single disc can only carry 72 minutes of video – but, perhaps more importantly, games with full motion video and interactive movies.

Philips has also formed a working relationship with a division of US telecoms giant GTE to develop interactive TV based on the CD-i player. The system works in a similar way to teletext by allowing a broadcaster to include some extra information in the sub carrier of the broadcast signal. This information is archived in the CD-i player and can be called up at any time by the viewer. One example of how the system could be used is in a live sports broadcast where score information could be broadcast constantly, so the user could pull up the information at any time.

CD-i is just one of a whole range of home-oriented multimedia systems in the works, only a few of which will survive the test of the marketplace. One of the most eagerly watched companies is Nintendo who are publicly committed to delivering a CD-ROM upgrade to the NES this year that is expected to retail for around \$200 in the US. Already Nintendo is embroiled in a complex web of deals involving CD-ROM publishing. It has an agreement with Philips' American Interactive Media to jointly develop games for CD-i based on popular Nintendo characters such as Super Mario, and Princess Zelda. Apple, Sega, Commodore, and many others also have CD-ROM based systems in development or on the market creating a veritable alphabet soup of different and competing system for publishing games and infotainment products on CD-ROM.

Finally, of course, CD-Rom on the PC is not going to go away. Software houses are beginning to commit resources to it, and with games on anything up to 12 floppy disks, no-one is denying the need for a new mass storage device.

									
SCRABBLE 12.99	CORRUPTION 4.99	SUPREMACY 9.99	F19 STEALTH 16.99	3D CONSTR' KIT 8.99	WONDERLAND 14.99	F15 STRIKE EAGLE 2 13.99	ELITE 6.99	FERRARI F1 9.99	FUN SCHOOL 4 17.99
									
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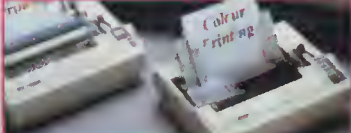


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JOYSTICKS AND GAME PORTS

In this series of articles about the PC, hardware and software, we'll be taking you, step by step, through the ins and outs of using, controlling and upgrading your machine.

You'll find out what the PC's components are, how to use them, and how to use your PC software to get the best out of your computer.

Every good game needs a joystick, but joystick ports aren't standard issue on PCs as they are on other home computers. This month Paul Presley explains how to install game cards and what kinds of joysticks there are on the market.



One of the main factors that separates PCs from other mainstream home computers as a games machine is that most PCs don't come with joystick ports built-in. It could be said that the reason Amigas and STs failed to become serious computers was that software developers saw the joystick ports and merely thought "It's a games machine", thus not really bothering to try to develop them beyond the sophisticated console image that they appear to have become stuck in.

PCs, on the other hand, have had to develop the other way, starting out as keyboard, then mouse-driven business computers, before arriving at their current

all-round status. To this end, the joystick manufacturers from the Amiga and ST world have had to start developing 'game cards' for us to plug our specially designed PC joysticks into.

It's not just the PCs and the cards that have undergone radical changes and developments. Once the gaming potential of the PC was spotted, dedicated companies have worked on all manner of control sticks, from standard two-button arcade types to the weird and wonderful flight yokes and pedal controllers. In fact, as the quality of PC games has evolved beyond its rivals and counterparts, so the PC joystick has evolved to match.

Where to start

As with a lot of areas in the PC gaming world, joysticks are subject to the myths and rumours of installation complexity and compatibility problems. Of course, these myths are simply that, a fear of the unknown, worries that by opening the back of your machine you will somehow wreck it for life.

To connect a joystick you simply need two things, a suitable game card and the stick itself. This is the first mistake that is usually made, assuming that any joystick will fit into a game card. Always make sure that you check whether the shining black masterpiece of ergonomically designed plastic moulding and microswitches is actu-

ally PC compatible. Standard joysticks have 9-pin female connectors, an analogue PC joystick requires a 15-pin male connector.

There are products on the market that allow you to use standard digital joysticks with your PC — usually just a simple connector box with a 9-pin input socket on one end and a 15-pin output lead on the other — but these are really only worth considering if you can't find a PC stick to suit your tastes, a task that should be made easier by reading the following.



The Arcade, the Pistolstick, the Quickjay M5 and the Quickjay PC Tapstar. Standard joysticks, suitable for most types of game.

Simple sticks for simple pleasure

To start with, we have several interestingly designed but not particularly special joysticks. These are the standard sticks, useful for most games, from platform romps to flight simulations, coming in a variety of shapes, sizes and colours (some are even transparent so that you can see how pushing the shaft left causes your F-16 to plummet into the ground). The important thing to consider here is how comfortable you find them. Joystick tastes differ wildly from one person to the next. The pistol grip, button atop the shaft, suckers on the base stick that Joe finds so easy to use with Prince of Persia, could quite easily be so unwieldy with Fred that it causes severe wrist-ache only marginally slower than it causes the Game Over legend to appear on the screen. Ask your retailer if you can try a stick out before you hand over your money. A comfortable stick in the hand is worth two painful ones on the shelf.

If it's a general all-purpose stick that you're after, then it's well worth considering purchasing a 9-pin joystick adapter. Plugging this into your PC will

ANATOMY OF A JOYSTICK



enable you to take full advantage of the many sticks available on other computer formats. Because PC games are often much more involving than others (deep, immense strategy epics or ultra-realistic flight simulators), PC joystick designers tend to prefer to create the more unusual stick. Having a converter allows you to pick and choose from the huge catalogue of 'simple' sticks that support the five-minute wonder fraternity.

Sharpening your axis

There is a trend for most PC-dedicated joysticks to be small enough to fit into the palm of your hand, contain two buttons in the top left corner and have a small shaft (sometimes with a third button on top) surrounded by sensitivity and axis adjusters. I've always found these sticks somewhat of a pain to use, mainly because I seem to be constantly adjusting the X and Y axes to stop the on-screen sprite from

doing his own thing.

Personal prejudices aside, though, I have heard lots of good things about these types of sticks. They may be small but they're very sturdy (I haven't heard of any breaking yet and those tested all stood up to a pretty strenuous game of Red Baron).

What the adjusters do is to ensure that the readings sent out by the joystick when it's in different positions are OK with the limits defined by the program. If they are out somewhat, you adjust the settings until they match up. This is usually achieved by a joystick calibration screen, called up when you select joystick control for the game (see Step By Step panel). Adjusting the trim controls stops the joystick from favouring a certain direction when left in neutral, something that can cause all sorts of problems when your biplane suddenly starts diving for no apparent reason.

A mouse by any other name

One of the most versatile types of joystick around has to be the Gravis MouseStick. Simply put, it is a very elegant and classy joystick, with a large sturdy base, several well-positioned fire buttons and a large, foam padded handle that, when not being abused in the usual manner of game-hungry stick destroyers, doubles as a mouse.

It's actually very hard to abuse the MouseStick, mainly because the basic model just looks so resplendent you hardly even want to use it gently, preferring to just let it sit there looking pretty. Still it is very responsive as a joystick, never needs calibrating as it has special software that



The Mach range of joysticks — the Mach I, Mach I+, Mach II and Mach III — plus the Joystick 600 and the Quickjay PC Connection.

Optical sticks

A joystick soon appearing in all good home cockpits is the Free Flight optically-driven stick. The Free Flight is designed to give the most realistic feeling of flight control ever by using optical sensors to precisely measure the joystick's angular movement.

Looking simply like an over-sized joystick without a base, the Free Flight is actually incredibly responsive and adapts from standard flying simulators to modern jet fighters to World War

I biplanes with ease. Resting the rounded rubber base of the shaft on a flat surface, the player uses his whole arm to move the stick instead of just his wrist. The rubber base stops it from sliding all over the place and the only real problems (and even then they're not too tricky) seem to occur when calibrating it.

Don't expect to be able to play arcade games with the Free Flight. As the name implies, it's purely a flight sim stick. Racing fans can rest easy though. RC Simulations, the company behind the Free Flight, is working on a similarly designed, optically-driven steering wheel.



The Gravis Mousesticks in varying shades, plus the Gravis gamecard that is supplied with the whale package. The Mousesticks can be custom ordered in a variety of colours to suit your machine.

does it all automatically and isn't very likely to wear out in a hurry.

As a mouse, it's even nicer, although it's not quite the same as using the real McCoy, with 1,200 lines of optical precision providing its performance and a fully adjustable tension switch for the handle to let you get just the right amount of resistance in the shaft. It also comes with its own game card, complete with an extra socket for yet another joystick (or two if you use a "Y" cable).

The fighter pilot feeling

Flight simulator enthusiasts that want the ultimate in realism are easily the most catered for by PC joystick manufacturers. Apart from the completely over the top

flight yokes (I'll come to those in a minute), there are three control sticks that are well worth a look by every budding young Tom Cruise.

First up is the Flightstick, possibly one of the most favoured flight simulator joysticks around, two buttons on the top of the shaft and its own throttle wheel for games that support this option.

The throttle wheel replaces the need for keyboard speed controls (usually the numeric keys along the top of the keyboard) by having it right next to the stick. However, it doesn't allow you to control the other functions of most modern fighter planes, such as chaff, flares or landing gear, and that's where the Thrustmaster systems come in.

Thrustmaster is developed in the States, being modelled after the actual joysticks used in most cockpits. There are two parts to the complete Thrustmaster kit, the Flight Control System and the Weapons Control System. The FCS is shaped like a standard cockpit joystick, with buttons sticking out at every conceivable angle, taking care of firing, targetting, weapon selecting and cockpit views. The WCS is a replica of a full-size HOTAS (Hands On Throttle And Stick), shaped like a standard throttle control and takes care of most of the aircraft's other functions, such as landing gear, chaff and flares as well as the actual throttle commands.

There is a downside to both sticks in that



The Flightstick from CH Products and the Weapons Control System from Thrustmaster. Both are ideal for flight simulators, with the WCS controlling most of the usual keyboard commands. Also pictured (top) is the Flight Control System, the main control stick for the Thrustmaster kit.

they are only compatible with existing flight sims. A set of 10 dipswitches align the sticks to fit games such as Falcon 3.0 or Microsoft's Flight Simulator v4.0. Of

Installing a game card

Remember, 50,000 volts running through your body is not an enjoyable experience, so don't forget to unplug your PC before you start messing around inside.



1. Having unplugged the PC entirely and given yourself plenty of space to work in, the first step is to remove the casing from your PC. Despite the fact that most machines have dozens of screws on the back, there are only a few key ones that have to come out. Check your manual to make sure you're not unscrewing the cooling fan. Keep the screws aside safely and slide the casing either forwards or up to remove the lid.



This is the bank of expansion slots for your add-on cards. Select a suitable one for your game card – less obvious than it sounds. In an empty bank of expansion slots as shown here, use the bottom one first, so that in any future add-ons the casing won't be too fiddly. Also, some PCs actually overlap the expansion ports externally, making it difficult to fit the joystick into the port.



Remove the existing backplate, and insert the game card into the slot, making sure everything lines up correctly. Be firm, but don't force it using a rocking motion usually ensures easy fitting. Then screw the backplate into place.

FIRST STEPS WITH THE PC

course, with only 10 switches, the sticks are only compatible with 10 games. Still, they are 10 of the best flight simulators around (and *Flight of the Intruder*).

Surprisingly, they're not very sturdy either, despite the fact that the FCS looks like something straight out of *Star Wars*. The bases for both sets aren't particularly large and don't provide you with much stability, skidding across the desk with the greatest of ease. Still, if you are after the real in-cockpit feeling, you're not going to get much closer. Apart, perhaps, from the flight yokes.

Bulky realism

Finally, for the ultimate cockpit feel, we have the Yokes. These are not combat sticks, far from it. You'd be more likely to find one of these babies in a Cessna than an F-16 and if you were to try dogfighting with one of these monsters in your hands, you'll be one of Uncle Sam's statistics quicker than you can say "Was that a missile?"

In truth, flight yokes are bizarre



The Zaamer, the Maxx yoke, the Flight Yoke 2000 and the flying System 2000 — all good examples of the flight yoke.

contraptions, with a horizontal steering mechanism akin to a car's steering wheel and vertical controls that require pushing or pulling the wheel into or out of the main body. This is real flying, Boeing 747 stuff. Dodging missiles, pulling High-G turns or Split-Ss, while not impossible, aren't particularly easy. But plug this into a copy of *Flight Simulator v4.0* and you won't believe the effect.

It also works with most driving simulators. Indianapolis 500 was an absolute joy to play with one of these and, for once, I was more inclined to try to win a race rather than cause multiple pile-ups around the third bend (something that every, and I mean every, Indy 500 veteran will tell you is much more fun than actually playing the game).

Yokes are attached to your table through the use of clamps, usually positioned either side of the main body. The only trouble with most of these clamps is that they don't seem to fit to any standard size table. My own desk is just over an inch in thickness and I still had to shove *Jetfighter II's* manual (a good half inch itself) underneath to provide a decent support.

Under pressure

For those of you wanting a fully realistic atmosphere while buzzing the Golden Gate Bridge in your Cessna, several companies also produce sets of rudder pedals to complement the yokes. These do little other than provide subtle changes to your horizontal position — except in helicopter simulations where they become really useful for quick swings around the horizon — and they don't feel wonderfully

Contacts

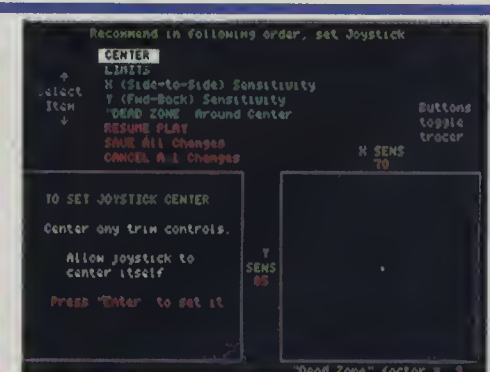
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sturdy (being made mainly from cheap plastic) and you often think that by applying anything more than the merest picrojoule of pressure, you're going to put your foot right through it.

As with the yokes, using them on driving simulations is infinitely better, replacing the unrealistic keyboard controls for accelerating and braking. They still give that brittle, breakable feel, but at least it feels pretty good when you can slam on the brakes in one of these games for real.



The Maxx yoke and pedal system. Designed for the ultimate in cockpit realism.



With the innards taken care of, just slide the external case back on and replace the screws. Once again, check that the case doesn't interfere with the actual joystick ports. If so, you'll have to choose another slot. Your new interface should fit square and snugly into its slot, without any bowing or sagging.

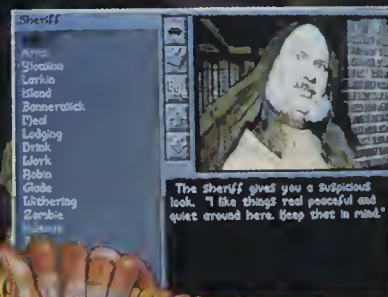
Now that everything's back in place, just plug in your joysticks and away you go. It's a simple thing to overlook, but make sure you know which slot is port 1 and which is port 2. Two-player games can get pretty confusing if you don't know who is controlling what. The screws aren't essential for making the connection, so you may want to tighten them only when you know the joysticks in working order, but they will help secure the joystick to its interface.

The normal procedure for correctly calibrating your joystick is to centre the stick and press button one, then move it to one of the corners and press the second button, then move it to the opposing corner and press one of the buttons. The more complex screens, *Jetfighter 2* here, also require you to move the stick all the way around its outer edges, to set the amount of sensitivity and dead zone, used to mask out small vibrations to stop the stick from accidentally moving the plane.

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Falcon 3 has finally made it into the shops, without one or two of the bugs, so, as we did with *Ultima VII* last month, we've taken a good, long second look at it. On the subject of second looks, Steve Meretzky fans will be pleased to see that *Leather Goddesses of Phobos* is back!

● Alternatively



We believe games should be placed in context. If you like the sound of *Epic*, for example (see page 48), you'll be interested in other games of a similar style. In all our major reviews, we offer comparisons with other titles on the market, some of which may be more suited to your tastes.

● Hardware requirements



A succinct and precise list of the hardware features required by each game. If you need to know how much hard disk space a game will take up and how many floppies you'll find in the box, this is where to look.

Our no-messing, no-guessing guide to the hardware supported by the game tells you exactly what graphics and sound cards are supported. And if there's anything unusual about the specs, or any additional information, we'll note it along with the hardware requirements.

● Two minutes



The Two Minutes panel is the nearest thing to seeing the game in action, as we take you through selected screens and note the gameplay required.

You'll find our reviews concentrate on the atmosphere generated by the program and the gameplay involved, rather than regurgitating reams about the background story. You can always read the novella when you buy the game – our job is to help you decide whether you want to buy it in the first place.

● Our rating system



We're as fed up as you are of over-complicated rating systems that mark everything from packaging to intro sequences and tell you nothing about the real quality of the game. That's why we've made our rating system simple and consequently useful. We give a single mark out of 10, based on the game's overall quality and how enjoyable it is to play.

You'll find the marks in *PC Review* are frequently not as high as in some computer games magazines. This is deliberate – not everything is worth the equivalent of 80 per cent. As a general yardstick, anything which gets more than five is, in our opinion, an above average game; seven is good, and eight or over is excellent.



Lure of the Temptress. Enter a brand new world thanks to Virtual Theatre on page 36.

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A quick round up of everything that we promised you last month but failed to deliver due to circumstances beyond our control.

■ Lure of the Temptress ■ Virgin ■ (081) 960 2255 ■ £35.99

It's been said that there are no original ideas left in computer games any more and to a certain extent that's true. However, there are plenty of *new* ideas, evident in recent months with Shadowlands, Ultima Underworld and Another World. Even though these games all contain hackneyed plots and well-used scenarios, they score by having plenty of originality in their designs, with systems that make for enjoyable gameplay. Now there's another new system for us to dabble with and jolly nice it looks too.

The system in question is called Virtual Theatre, 'virtual' taken from the fact that it creates another world for you to exist in and 'theatre' because it's designed to tell a story using actors, props and scenery. VT's first title, Lure of the Temptress, has received a fair bit of coverage across the board during its development stages and even though it looked like it was never actually going to appear, it's finally made it to the review stage

and is looking every bit as good as it promised.

Virtual Theatre attempts to create a believable environment for the player to adventure in. It does this by designing systems for sophisticated character interaction and object manipulation, then designing the story to fit, as opposed to the other method employed by most adventure game designers — ie, creating a story then working it into a game.

What's more, it works. Just strolling around the town of Turnvale (I'll come to the actual plot in a minute), you really get the sense that everyone is leading their own little lives and that you are merely a passing visitor rather than the centre of attention that is usually the case with most other adventure games.

The plot is little more than the usual fantasy fare, but is boosted by the overwhelming performances of the central characters (this job starts to sound more and more like Barry Norman's with every passing review). Ratpouch, your trusty

Lure of the Temptress



The classy intro sequence tells how Diernot found himself in the unfortunate position of a skoll prisoner.

sidekick, provides a good stream of humour from his (extremely) bad jokes to his attempts to get served while in the pub. You can often just forget about playing the game, choosing instead to watch him at work.

A soldier of misfortune

As with all good fantasy plots, the hero is an unwilling one. A young lad is caught up, by accident, in a battle between a king's army and a race of foul creatures. The youngster is struck about the head at an early stage and falls unconscious, to awake trapped in a prison cell. This is where the player comes in, first having to work out an escape plan from the cell, then from the prison itself. Once free, you find yourself in the village of Turnvale, recently overrun by the creatures (known as Skorl), under the guiding hand of their evil mentor, the temptress of the title. It's up to you to find a way to free the village and stop the Skorl before they can expand their rule further.

To help you get around in this world of adventure and intrigue, there is a very simple (and effective) control method, utilising both mouse buttons to optimum effect. Moving is simply a case of clicking on an area of the screen not already occupied (there's a clever routine called autorouting at work behind the scenes to make sure that everyone walks around without bumping into each other). Menus are called up with

the other button that contain relevant verbs for the particular situations. It's all very straightforward, easy to pick up and well explained in the manual. Speaking of the manual, it's certainly one of the better examples of late, being written in the style of Ratpouch explaining the game to you. It's clear, very funny and does a good job of describing the different aspects of Virtual Theatre to give you a good idea of what to expect.

In fact, everything about Lure is professional right from the start, with the very classy intro sequence describing Diernot's unfortunate fate in a glorious succession of animations that on the whole use no more than three colours. The pictures shown here don't really do justice as you have to see it moving to appreciate it. The VGA graphics do a marvellous job of conveying mediaeval life, akin to a good set in a play, and the sprites are just detailed enough to provide them with some great mannerisms and expressions. Take the shopkeeper, for example. When he's with customers he'll occasionally shove his glasses back up his nose, but catch him when he's alone and he'll probably be pulling faces at you or doing some strange kind of action with his arm which I won't even try and describe.

The sound works well too, adding to the atmosphere with all sorts of background effects and tunes that fit the various stand-alone moments well. The Roland-generated music is particularly impressive, especially during the intro, starting

Creating a believable setting in an adventure game is one of the trickiest parts to get right. Revolution Software got round that problem by creating an adventure around a system

As characters are all-important to Lure, so conversation becomes a fundamental task in completing the game. In an area full of people (such as a pub or a market square) you'd expect plenty of conversations to be taking place, and indeed they do.

Whenever you see a speech bubble above a character's head it means they are chatting away. If you yourself say nothing to interfere and are standing in the vicinity, you'll probably be able to hear and read what they are saying.

For your own conversations Lure uses the tried and tested multiple choice system. Select a question or response from the list and try to gain whatever information you require.

Talk to Stranger



with a slight pace then slowly building to a massive crescendo for the main battle. It's amazing how much sound adds to a game (I have in fact played two versions of Lure, one with the sound implemented and a pre-production version without). Playing without really takes something away from the whole ambience of the game — if you haven't already updated to a soundboard I'd strongly suggest doing so.

It's never enough

I can see Lure of the Temptress in a similar light to Another World, in that the hardened adventurer isn't really going to be stumped for too long and may end up finishing the whole game fairly quickly. The village sections do provide some challenge, but as an adventure I can't help wishing it had been both longer and tougher. Having said that, I would wholeheartedly recommend it as a beginner's adventure as it introduces you to the genre well and is an incredibly good advert for what this type of game can do. If only it did more.

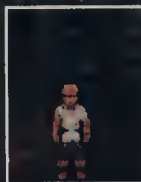
An example of the unrealised potential of Virtual Theatre comes from the manual of all places. A section in the game hints chapter reads: "If you're talking to someone and annoy them in some way, it might not end there — they may meet

Tell Ratpouch to Go to Apothecary Lane and then Get Sewerage and then Go to Castle Wall and then Ask Skori for Broken glass and then Use Broken glass on Knife and then Go to The Village Shop



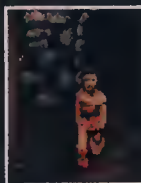
Ratpouch is more than just a constant companion, pesky sidekick and humour merchant, he can be useful too. The tell command doesn't work with many characters but a couple, Ratpouch included, will follow your commands (anything from one to a string of six in one go).

As with all good stage productions, the cast is everything



Diermot

The unwitting hero of the piece. Cast into the midst of battle, knocked unconscious and taken prisoner, Diermot has to escape from his confines, find out who's controlling the skorls and rid the village of Turnvale from their evil influence.



Ratpouch

Diermot's sidekick, confidant and all round servant. Also captured by the skori, the two meet in the prisons and plot their escape.



Selina

Leader of the skori and a mean and vicious sorceress. With her army to support her she intends to expand her rule to the rest of the country.



The skori

An evil race of creatures led by Selina into the village of Turnvale where they now plot their campaign to rule everything.

someone else on their travels and relay the incident: 'That Diermot,' they could say, 'there's something extremely fishy about him if you ask me'... Rumours and gossip can travel like wildfire in a village like Turnvale.' Theoretically this is possible with the VT technology, but unfortunately there isn't all that much evidence of it in the game. On the numerous occasions where my curiosity got the better of me and I just decided to follow a particular character around the village, they always stuck to pretty much the same route. The blacksmith would hammer at his anvil, leave his shop, walk around the town until he arrived at the inn, buy a drink, talk to the barkeep, return to his shop and start the whole routine over again, taking exactly the same routes. His speech would change for about four or five turns but then that too would start to become repetitive.

Don't get me wrong, I'm not faulting Lure for this. It would, in all fairness, be nigh on impossible for a program to provide an endlessly differing routine for numerous different charac-



TWO MINUTES OF STAGE PLAY

Diermot starts the game imprisoned in a skori jail cell, with little chance of ever seeing daylight again. With just a straw bed to lie on and a burning torch to see by, he discovers a small crack in the wall.

Looking through the crack, he sees a torture chamber with a small peasant lad tied to a rack. The Skori guard patrols the area from cell to cell. As he's just left the torture chamber, he's probably coming back to harass Diermot.

An idea strikes Diermot. Before the guard manages to reach the cell, he pulls the burning torch on to the straw bed, setting it ablaze.

When the Skori arrives, he instantly goes towards the bed to check it, allowing Diermot to slip outside.

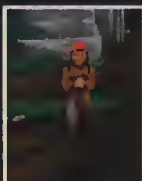
Before the Skori gets a chance to respond, Diermot has closed and locked the door, trapping the hapless creature inside. Chained to the wall is another poor wretch on the verge of collapse. He begs for water



The main stars of Lure of the Temptress are:

Luthern

The town blacksmith and unofficial leader of the resistance movement. Once free of the cells, Diernmot has to contact Luthern for information.



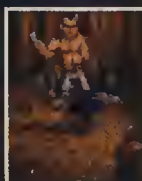
Goewin

Imprisoned by the skorl's leader for her trouble-making ways, Goewin needs to be rescued by Diernmot before the townsfolk really begin to trust him. Once freed, a relationship forms between the two.



Gwyn

The town gossip can be a bit of a pain at times, especially when you're in a hurry, but in her meaningless waffle a pertinent clue or two can often be found.



Mallin

A shady type more interested in money than morals. Mallin doesn't see the skorl invasion as a problem, more of an opportunity.



ters and to simply save disk space, memory and processing time you have to put a loop into the characters' actions at some stage. On the whole Virtual Theatre provides a realistic atmosphere and a believable setting, it just lacks two important things. A time structure and individual privacy.

That there is no feeling of night and day in the village of Turnvale takes something away from the overall feeling of realism that developer Revolution Software has worked so hard to maintain with the characters, the settings and the storyline. The endless loop of working, walking, drinking, walking and working would have been much more plausible if sleeping had been included in there at some point (preferably after the drinking stage). Also the fact that almost nobody seems to have a home to go to doesn't help, meaning that you can follow someone constantly without them ever stopping to ask you why you've been shadowing them for the past day and a half.

Realism is also stretched in a couple of places relating to

conversations. While there's nothing wrong with the system used (the Monkey Island series is a testament to this), conversations can occasionally be repeated when locations are revisited. From the player's point of view this is understandable when you want to ask someone about already revealed information, there's no reason why you shouldn't be able to. Where it goes wrong is when the NPCs (non-playing characters) say exactly the same things back to you, as if it's the first time you've ever spoken to them about the topic. Obviously there are limits to the amount of text a game can contain, Lure actually contains over 2,000 separate sections of character speech, so on the whole it's pretty much forgivable.

What could have been

Potential is the operative word when describing both Lure of the Temptress and the Virtual Theatre game system. The room for growth is amazing, in that the technology can be applied to almost any story genre with very little change. Just looking at some of the program's routines in action gives you some idea of how much is possible from the system. Take the 'look through' command, for instance. Tell Ratpouch to go into the village shop and ask the shopkeeper for something, then watch him do it by looking through the window. Imagine that routine applied to a detective story, convincing the young maid to go and ask the butler about the murder, because he doesn't like you and won't tell you anything, but is very fond of the girl and would tell her. You then watch from afar and gain the information needed.

I can't help but imagine existing games using Virtual Theatre — Cruise for a Corpse, for example, would have been perfect for the style, as would Sierra's Colonel's Bequest or a graphic version of that all-time classic Infocom adventure Suspect. Almost any game that relies on good character interaction to carry the plot would suit Virtual Theatre to a tee.

Lure has other areas that, while not really qualifying as mistakes or bugs, don't quite work as tidily as they could have done. A prime example is the semi-artificial intelligence attributed to each of the characters when it comes to movement — autorouting. Each character can sense when they are obstructing another and will move out of the way to let others pass. It almost works except for certain occasions when the character tends to move so far out of the way it would have been less bother for him just to have barged through. It doesn't

The next room contains a barrel full of water, a bottle to carry it in and a very handy knife. Looking through the grille, Diernmot spies the trapped skorl. Concentrating on the prisoner, he fills the bottle and hurries back.

Giving the man a quick drink, he urges Diernmot to deliver a message to the town blacksmith. Something about a girl in danger. Asking for an escape route, the prisoner manages to say something about loose bricks, then dies.

Remembering the poor soul on the rack, Diernmot tries to find the torture room, hoping that another person might help to find a way out. He finds him tied down to the rack and after freeing him, learns that his name is Ratpouch and that he'll help in any way he can.

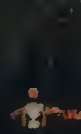
Asking Ratpouch for advice is like asking the village idiot to discuss quantum physics — quite pointless. He does, for all that, lend enough weight to the problem and, when push comes to shove, manages to free the duo from the cell.

Skorl

Get a bottle of water

Water

Skorl





The village shop, as seen from outside. One of the innovative parts of Virtual Reality is the fact that life goes on no matter where you are or what you do. The conversation taking place between Gwyn and Ewan in the shop has nothing to do with your quest but adds to the feeling of realism.

matter so much when you see NPCs doing this (although it does blow small holes in the carefully woven tapestry of realism that VT has been trying to weave together), where it starts to irritate is when Diernot starts doing it, as you have no way of stopping him until he's decided for himself he's gone far enough! When you're trying to follow someone and you end up losing them because of such a frustrating situation, it's extremely annoying.

Just the start

Lure of the Temptress is a remarkably enjoyable (if a little short) adventure romp though tried and tested themes. It scores highly in the areas that it promised it would during development and doesn't have all that many faults to weigh it down. What I liked most about the whole game was that you were hardly ever forced to follow a set route to complete the thing. I found it quite refreshing to be able to just wander around the town, chatting to the locals, following people as they went about their errands (despite the loops) and just soaking up the atmosphere.

From what I've heard of the sequel, it looks like Revolution Software is putting a lot more into the way of interaction and realism, improving upon the actual 'lives' of the supporting cast and the abilities of the player as a whole (and no doubt relying heavily on consumer feedback to inform them of other areas for improvement). Lure of the Temptress is in a similar boat to that of Future Wars when it was first released. The actu-



REQUIREMENTS

Lure takes up just over 2Mb of hard disk space, but seeing as it is possible (although not recommended) to play directly from the floppies, finding storage space shouldn't be a problem. EGA versions are sold separately and are actually pretty good, with very little colour clashing and good sprite definition.



ALTERNATIVELY...

King's Quest V

Sierra, £44.99

King Graham of Daventry? Kidnapped castles? Talking owls? Say what you like about Sierra games, when it produces a game set in the fantasy genre, you can be sure we're talking about children's fantasy, not JRR Tolkien or Raymond E Feist.

The latest King's Quest chapter has been pretty well received across the board, graphically it's better than it's ever been and technically you can't really complain, but for good, solid, believable stories you're better off with the Virtual Theatre stable.



Monkey Island 2: LeChuck's Revenge

Lucasfilm, £39.99

Proving that Americans do have a sense of humour is Lucasfilm's very successful Monkey Island series. Both the original and its graphically superior sequel are packed full of jokes, puns and humorous satire and are both very enjoyable games.

Whereas Lure of the Temptress is aiming to create a believable world of real characters doing real things, Monkey Island is more like the kind of thing you'd expect from a Hollywood blockbuster.

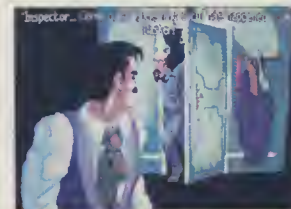


Cruise for a Corpse

Delphine, £30.99

Closer to home (in every sense) is Delphine and its masterful Cinématique series. Future Wars was impressive enough, if a little short, and Operation Stealth was fun but more 'American' in style, but Cruise for a Corpse proved that good adventure games could involve a good degree of thought.

Both Cruise and Lure play in a similar style, with Cruise behaving more like a 'real' stage play and Lure like a 'real' world. Cruise is also a lot tougher (almost to the degree where it puts you off) and a lot more likely to last longer, but doesn't have the same friendliness about it that Lure gives you.

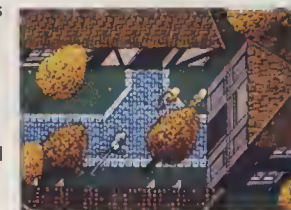


Ultima VII

Origin, £39.99

Believability and storytelling has always been at the forefront of Origin's Ultima series, and nowhere is it more important than in Ultima VII, mainly because it almost manages to make up for the bugs contained in this ante-penultimate Lord British adventure.

Ritual killings, drug abuse and technological advancements in society all play a part in this tale of the Avatar, Lord British and the gang. As always atmosphere is immense but it loses something in its size, not being too small, instead over-stretching itself.



al game, while enjoyable, shows that much more is possible and is worthy of purchase as the first of what looks like being a truly classic collection.

PAUL PRESLEY

MAGIC POCKETS

THE BITMAP BROTHERS



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SOFTWARE REVIEW

- Wizardry VI
- Sir Tech/US Gold
- (021) 625 3366
- £37.99

Following the UK distribution deal with US Gold, the Wizardry series of role playing games is set to become officially available in this country for the first time. This means that role-playing aficionados can look forward to the appearance of Wizardry VII – Crusaders of the Dark Savant later in the year, but in the meantime its predecessor, Wizardry VI – Bane of the Cosmic Forge, is scheduled for imminent release. Bane is acknowledged as a classic in the US, but has only been available in the UK via import specialists until now.

It is somewhat unusual to find a role playing game like this, attractive to both enthusiasts and beginners alike

WIZARDRY VI

— BANE OF THE COSMIC FORGE

Bane is simply and quickly installed on a hard disk, occupying a paltry 2.5Mb. The comprehensive 120 page manual is virtually a beginners' guide to fantasy role playing and covers all aspects of gameplay. For example, with character creation it details the extensive choice of the various professions, race and attributes available. Unlike its competition these choices have a subtle effect on the players' skills, the combination of which can alter the course of the game. The statistics are impressive – 11 races, varying from the usual human, elf, dwarf and hobbit to the more unusual acid-breathing dragon and the half canine, half human rawulf.

A professional approach

Professions are also numerous, 14 in fact, from the usual fighter, mage and priest to the mental magic of the Psionic and the female warriors of the Valkyrie. Even though the character creation is quick and pleasantly uncomplicated it manages to maintain a

tain a very wide variety of combinations.

It is likely, however, that as you become more developed in the skills of the game, you will learn that you have made some initial errors which, although not fatal, may result in your starting with a more balanced party, or choosing a more harmonious blend of individual characters. Generally the players are either magic or non-magic users. Thieves and rangers also play their part, each having their own skills and even academic specialities.

Having constructed the party the fun really begins. You start by not really knowing where you are, or why you are there! You seem to be in a huge deserted castle that has suffered some terrible catastrophe. Everywhere you find the remains of a once vibrant household, with clues unfolding of a seemingly cursed king and queen, a love-child of the castle's priest and of some pretty dark



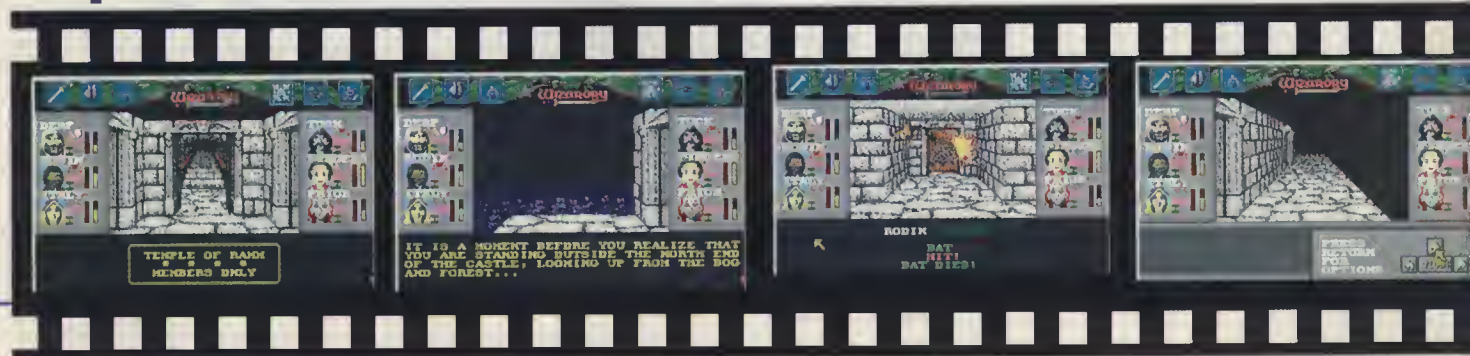
TWO MINUTES OF CHARACTER STRENGTHENING

The temple of Ramm will be your ultimate destination.

From a first person, eye level view, the landscape is criss-crossed by watery channels and gorges.

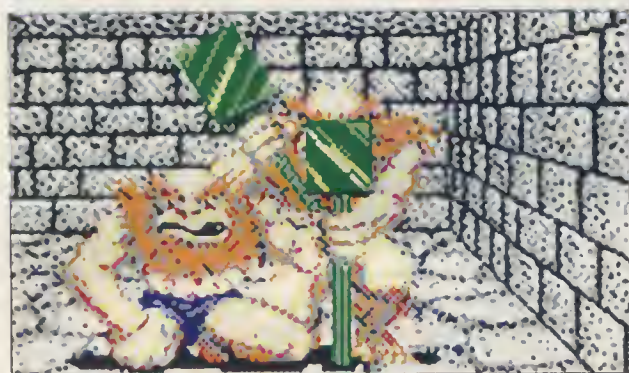
Give those bats in the belfry a real headache – even if fighting in the game can be rather long-winded.

Can you stand the suspense of walking along the very edge of darkness?





This daunting looking figure is Lord Daimyas, the top samurai. You'll encounter him in the Temple of Ramm. He's particularly tough (162 hit points), but you can look forward to a massive 53,500 experience points if you manage to defeat him. Be careful though, he's often accompanied by about a dozen ordinary Samurai, although you should find these easier to defeat as they pass a measly 50 hit points apiece. Another creature to watch out for in the temple is the psionic Mindflayer. This mind blasting beast requires same careful tactics if you are to defeat it.



Also tough to beat are the Gionts. These can absorb 200 hit points of damage each, but the reward is 23,000 experience points. Watch out for their poison!



There are about half a dozen fountains in the game and most of them have beneficial effects like restoring strength and magic points, others poison you.

goings-on. Once you have solved certain quests and problems you will learn of the Cosmic Forge itself.

Mightier than the sword?

This item of the title is an incredible celestial piece of hardware. Whatever the writer pens with this item becomes true! But there is a downside, the writer becomes subject to certain dark forces and influences: to tell more would spoil a detailed and well thought-out plot.

The Bane of the Cosmic Forge includes the mandatory castle and dungeons; it also has a belfry and towers, various

precipices, ledges to fall off, a massive gorge with many bridges and passes, dwarf mines, a wizard's cave and, probably the best section in the game, a superb underworld complete with River Styx, Charon the boatman and Isles of the Damned and of the Dead.

There are lots on non-playing characters, including eager to trade shopkeepers, dwarf blacksmiths and half-naked Amazonian female warriors! This problem solving forms an integral part of the Wizardry series and Bane involves mind-stretchers using a multitude of items including drawbridges, altars and even a catapult. Character management and inventory control

In Wizardry VI, a creaking door is bound to conceal some hideous terror behind it ...

... such as a serious set of mystic head bangers, about to get 'nuked'.

All sorts of vermin can and will attack you with no apparent warning.

And the grim reaper awaits those who fall, in this suitably dark and macabre end-screen.





These Strongler vines are found on the first two levels and are easy to beat despite spitting poisonous venom. There are also fuming and creeping types.

is a very important aspect of the game, especially in the later stages.

Previous criticisms of the Wizardry series have included the lack of any real plot and of its 'linear' feel — levels just piled on top of each other — but these problems have been satisfactorily addressed, and more than adequately, greatly improving the degree of character interaction and enjoyability.

The game is indeed massive, with weeks or months being necessary to complete the various tasks leading to the inevitable confrontation. Playing time is estimated at 240 hours plus. The product also benefits from 'dialogue' and location descriptions, reminiscent of Infocom at its best, and the digitised 'sound' is really excellent, not needing a soundboard to achieve a very good atmosphere. Atmosphere is the right word as the sounds produced are not a repetitive, annoyingly tacky tune. Instead you hear footsteps, buttons being pressed, echoes, the flow of underground water, the magic of spells, yells of pain and so on. All these from the PC chip alone — and without greatly affecting the speed of play.

Problems, problems

The game revolves around exploration and combat, but also has a wide range of problems and puzzles that must be solved. The nice aspect of the puzzles is that although some are taxing, they are logical — I have a massive dislike for the need to ring a helpline or manufacturer with a query to be told "well you stand on your left leg and put the third hedgehog in your right ear". All problems can be solved sensibly — often by stopping to have a cup of coffee or a bath (a necessity occasionally during the game). *Rots are one of the easiest Beast types to beat. They have only 2 to 4 hit points each and are worth a measly 150 experience points. They can occasionally be robid however, so don't get too complacent.*



General advice

Save game often — restoring before a difficult fight or before opening a chest may improve your position.

Include a dracon in your initial party; his fire breathing is a useful early weapon.

Don't forget to read your books.

Not all weapons and armour are good news.

Not just keys open doors.

Go shopping regularly to manage inventory.

ing the weeks or months involved) and cogitating.

A very good touch, in particular for newcomers to this genre, is that 'essential' items cannot be dropped — you can't therefore accidentally or unknowingly ruin the game by arriving at the end game after weeks of effort to find that by disposing of the "broken dwarves' widget screwdriver holder" (normally in the first five minutes) you cannot complete the game and have to start again. However, a balance is kept so that you can drop useful items that can result in some hard work to recover your position — c'est la guerre!

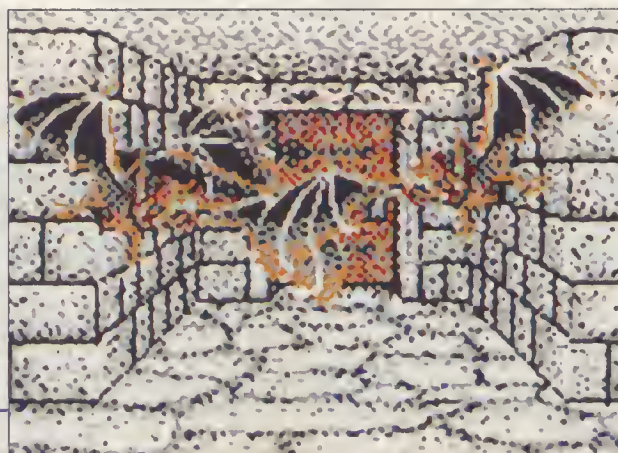
Mapping is certainly essential in parts, if not in total. Auto mapping is not part of Bane (but is a feature of Crusaders) so it's a pen and paper job. The combat system is simple but varied, different weapons and spells having different results and combat situations are both at fixed locations and of a varied nature. There are over 400 individually researched pieces of armour and weapons. There is a huge list of monsters and opponents each requiring different approaches and tactics and the scenes are well animated with ghosts materialising from walls, bats flying, rats jumping and sirens wailing. You almost start dodging the spells as fireballs and particularly nasty items are propelled orally at you by half-dead or all-dead creatures. Don't worry, you can get hold of a sort of magic mouthwash later on.

A matter of timing

The combat system is 'phased time' as opposed to 'real time' so all those, like me who are not star performers in the dexterity stakes will appreciate this aspect.

The magic system sets the standard for others. As characters gain experience either by hack and slay, achieving quests or exploring new locations they become promoted. Certain character points are automatically allocated — others must be

There are five types of bat in the game. Ordinary bats and black bats are the easiest to destroy, but things get slightly tougher with vampire bats, while indigo bats and monstrous bats can make life very difficult indeed.





EYE OF THE BEHOLDER II

SSI/US Gold, £34.99

A generation ahead of Bane with very impressive graphics and smoother movement. Rather more linear in plot than Bane and virtually no character development. 'Real Time' with almost arcade-standard combat, but the best SSI has released.



MAGIC CANDLE II

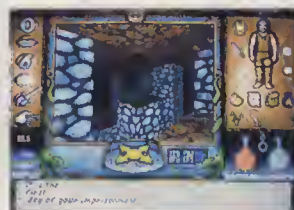
Mindcraft/Electronic Arts, £34.99

Disappointing sequel to classic RPG. No mouse support is unforgivable, and the interface is unwieldy. Good plot nevertheless, but only really for die-hards or lovers of nostalgia. Cannot really compete with any of its stable mates here.

ULTIMA UNDERWORLD
— STYGIAN
ABYSS

Origin/Mindscape, £35.99

Brilliant new release from Origin. New gaming engine with 'virtual reality', very smooth and atmospheric. Plot is not its strongest point, nor is character development, but great fun. Medium dexterity required, goes more head-to-head with Eye of the Beholder, but you need a 386 with 2Mb memory, and 13Mb disk space! VGA graphics only.

ULTIMA VII —
THE BLACK
GATE

Origin/Mindscape, £39.99

The biggie of the bunch. Huge hardware requirement — 386DX or 486 (will run slowly on 386SX), at least 2Mb memory (4Mb recommended for slower machine) and hard disk space of 21Mb! Superb graphics, with full mouse point-and-click interface. Greatest textual content — more than the rest put together! Full screen graphics, all the old plot lines, pals and locations, plus another mind-boggling story. Also, tragically, some silly bugs (see Issue 9) which make it pretty



allocated by you, do you want to improve your characters swordplay, or perhaps his skill with wands, or with artefacts? Furthermore, upon promotion you will have a selection of spells you can take.

The graphics are only EGA, but really show what can be done with this graphic standard, while equally showing that

Since PC time began...

Despite their current sophistication, role-playing games actually made an appearance on the very first PCs. These were games like The Temple of Asphai, which were generally converted from programs originally designed to run on an Apple II. Unlike today's audio-visual extravagnazas, these original RPGs were mainly text-based with a stark overhead plan-view of each location and simplified graphics representing the hero and monsters!



What lies behind the door? Doors play a big part in Wizardry. Certain doors need keys, some have locks that can be picked. You can also try to force doors.

flashy graphics do not on their own make a good game. Sound boards are supported as is a mouse.

The slightly unwieldy interface, eg, to use items like keys, or rather different keys requires a long series of key strokes, is one of the few criticisms to be levelled at the game. Some fights are overlong due to being unable to 'lose' quickly. Finally, and this is really nit-picking the routines, to rest may require several attempts to achieve full health. But taking all these minor criticisms into account and comparing with SSI Gold Box products, or even Magic Candle II, the interface is still very smooth.

In summary this is a gem — simple but with a wonderful depth of play. It is not for the faint hearted, but it is both a must for seasoned role players, and a very good introduction for newcomers to this type of product. It manages to combine the right balance of storyline, interface, and graphics that together constitute that rare quality of 'playability'.

Where it is overtaken by more recent RPGs (see Alternatively panel) is in presentation. Those graphics are EGA, not VGA, and look rather bitty in comparison to, say, Ultima Underworld and the rather cumbersome interface has been superseded by a number of games — matters that have all been addressed in Wizardry VII.

Every big software house nowadays seems to be getting on the RPG bandwagon — Wizardry provided the inspiration for most of them, Bane of the Cosmic Forge is a good example of the best of fantasy role playing and is well worth a look, especially if you do not have access to today's 'mini-mainframe'.

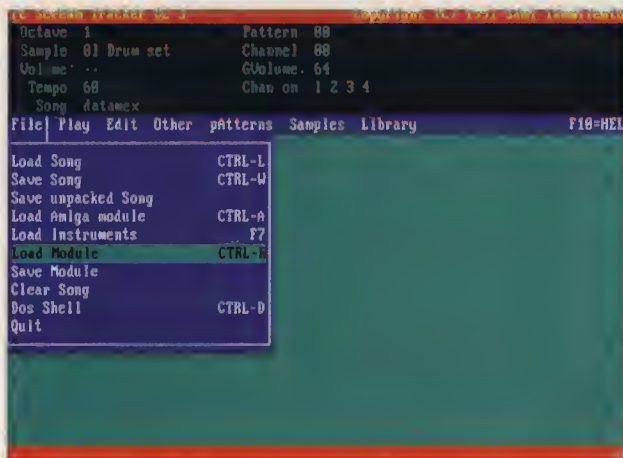
ROBIN MATTHEWS



REQUIREMENTS

Bane of the Cosmic Forge is contained on two 720K disks, or five 360K disks. The game can be played from two floppy drives or via a hard disk. Once installed it take up some 2.5Mb of space and needs 560K of free RAM with a 640K machine. CPU speed is very acceptable from 8Mhz up.



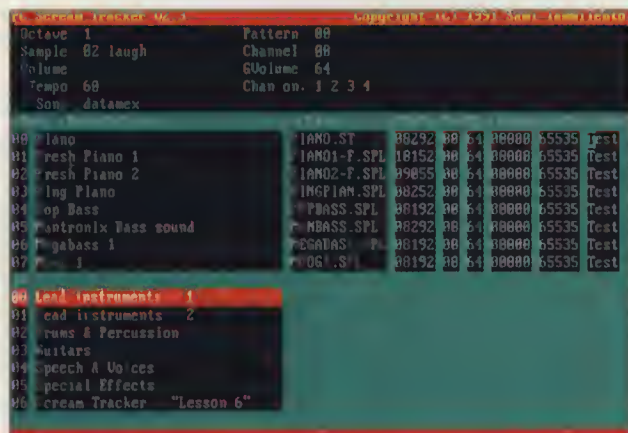


Since the PC began life equipped with nothing but a piezo-electric bleeper, it is hardly surprising that it has taken over a decade for the machine to attract musical software. Nowadays, the PC boasts a wide range of add-on sound contraptions, some of which are powerful enough to turn it into the best sounding micro on the market. Screem Tracker enables you to mix digital samples to produce complete soundtracks. Each song can use up to four voice channels and 31 instruments. These are selected from a possible 99 instrument libraries, each of which can store 100 instruments, giving you a massive choice of 9,900 instruments.

Screem Tracker comes supplied with a selection of over 150 pre-recorded instruments ranging from piano and flute to a frog croak and hand clap. To create your own instruments you will need a sampler and suitable sampling software, or you could scour the PD libraries for disks of pre-recorded samples.

Each song is constructed as a series of patterns, with a maximum of 64 per song. This is not that limiting, since most songs repeat, with slight variation, just a few phrases. Sounds can be entered at the appropriate place in each pattern by hand or played in real time using the computer's keyboard like a piano keyboard. This takes a little getting used to, because you first have to familiarise yourself with the layout thoroughly. The keyboard effectively covers two octaves, although each sound can be played over four octaves. The sounds can also be faded or you can add vibrato, tremor, or pitch bend. Cutting and pasting sections of patterns is easily achieved, making it simple to produce variations on an existing pattern.

Output is via the PC speaker, Covox Speech Thing, Sound



SOFTWARE REVIEW

- Screem Tracker
- Datamex Computer Services Limited
- (0933) 402300
- £75.00

Screem Tracker

Blaster, Sound Master II or the Datamex Sound Board, which is included with the software. The PC Speaker option is only really useful if you don't have a suitable sound board, or a hi-fi to connect the Datamex board to, but if you do use it you'll be presently surprised at the results. The Datamex board plugs into a parallel printer port and terminates in two phono plugs for connection to an external amplifier. This is a perfectly good solution if you don't possess a sound card.

As for compatibility, Screem Tracker can play songs and samples created with Noise Tracker, Sound Tracker and Pro Tracker on the Amiga. Two excellent manuals explain how to convert these for use with Screem Tracker. The software also has a couple of sample tracks created on the Amiga, and some

Screem Tracker originals ranging from Kylie Minogue through new world to rap.

Once you have created a song, you can play it independently of Screem Tracker by using the player module.

This enables songs to be played from the command line, and once it has started you can optionally return to

DOS and run other commands while the song plays in the background. I did have

trouble with this, as the computer tended to hang rather frequently while the song was playing. It is not, at present, possible to play Screem Tracker songs from within other programs, which is a shame, as it would otherwise be a very attractive package for software developers. As it is, Screem Tracker is an excellent, comparatively cheap way of turning your PC into the equivalent of a sampling keyboard, digital mixer and recorder, but look out for the stereo version in July.

LAURENCE SCOTFORD



REQUIREMENTS

You'll require DOS 3.2 or a later version and a machine that runs at 10 Mhz or faster. The software is supplied on three high density disks (both sizes are included) and can be installed to a hard disk or blank floppies. Works with Covox Speech Thing, Sound Blaster and Sound Master II.

CGA ☒

EGA ☒

VGA ☒

Tandy ☒

Hercules ☒

Roland ☒

Ad Lib ☒

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PC Screen Shots

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COKTEL VISION



SOFTWARE REVIEW

■ Epic
 ■ Ocean
 ■ £34.99
 ■ (061) 832 6633



It seems that most major development teams have to have one before they're taken seriously. Novagen had one, Argonaut is still having one and so is Psygnosis, and Glynn Williams certainly looks as if he might be having one. I'm referring to those giants of computer entertainment, those semi-mythical 3D extravaganzas that are always going to be the best thing since sliced polygons.

The criteria for what I'll call, for convenience, mythoware is that it must be at least two years in the making; it must be advertised at least six months in advance of its launch; it must generate a whole series of previews during the year before its actual release, showing stunning screen shots which bear very little relation to those in the finished game; it must be accompanied by claims that it is a landmark, nay, nothing less than a revolution, in the field of 3D computer games; and finally it must be released several months or years late, not so much to a triumphal roar as an anti-climactic and faintly embarrassed silence.

Now the lads at Digital Image Design, who (undoubtedly being Ken Dodd fans) like to be known as the Didy Men, have completed their very own piece of mythoware, the aptly named Epic. Digital Image Design, you may recall, first hit the headlines with F-29 Retaliator, which was also hyped to oblivion by Ocean and then suffered from an unbelievable lapse of quality control when it was released with more bugs than your average swarm of locusts. Unfortunately Epic also has the distinct odour of unrealised potential about it, but it manifests itself in a different way.

The greatest show on earth?

Epic's main selling point has always been the quality of the 3D graphics. The quality of the 3D graphics is indeed still the main selling point of Epic, which makes a lot of sense because it is the only reason for spending your hard-earned cash on the game. While Epic's graphics don't need the use of buzzwords like 'Bezier curves' and 'texture mapping' that crop up all too frequently in descriptions of recent 3D games, they do command the use of the words 'smooth' and 'fast' which, as far as I'm concerned, is what 3D should be all about.

What is rather sad is that the 3D is shown to best effect in the intro sequence and the animations between missions. Interspersed as they are with glorious two dimensional artwork and accompanied by a good, if hackneyed, rendering of Holst's Planet Suite, I'd have to say that this has easily the best intro sequence that I've seen in a long time. The same is also

Years in the making and so much promised that it's become almost legendary before its release – Laurence Scotford looks at how Epic fulfils expectations

This is the whole reason behind Epic – a sun going supernova. Your civilisation has only a limited time to find a new home.

true of the general presentation between missions and at the end of the game. The animated sequences and mission briefings are very atmospheric and really do carry through the storyline quite well.

While we're on the subject of storyline, playing Epic is a bit like playing another game called 'spot the inspiration'. Elements borrowed from popular television science-fiction series are fairly obvious. The general plot, which involves a mass exo-

Epic – a tactical guide

Because of the poor documentation, Epic can be a trifle confusing to begin with. So, to get you into the game quickly here are a few tactical tips.



1. On the surface of planets most major installations are linked by these tracks. Once you find a track just keep following it until you come to a target.



2. There are occasions when it is not entirely clear what your major targets are. The easiest way to find out is to blast everything in sight and watch your mission completion

percentage. If it only creeps up by one or two per cent then ignore that object in future. If it advances by 10 per cent or more then you've found one of your major target types.



3. In space battles, try and avoid the smaller, faster craft and go for the heavier and slower birds. These take more firepower to destroy but they are easier to hit and they give you a much higher

score and mission percentage.

dus from a doomed planet and a consequent war when the convoy passes through the territory of another race, bears more than a passing resemblance to that of Battlestar Gallactica, and, if anyone from Paramount plays this game, they will find much that seems familiar, what with the manual containing a drawing of a ship that looks much too similar to the Klingon ship from Star Trek and, to add insult to injury, featuring a chief engineer called Montgomery Scott! There's a touch of Star Wars in there too.

The introductory and in-game animated sequences actually do a much better job of telling the story than the manual, which is confusing, faintly pretentious and manages to say a hell of a lot without actually conveying very much. Read it, but don't expect to understand the game any better when you've finished. All you really need to know to play Epic is contained on the keycard and in the mission briefings. Sometimes it's not immediately obvious exactly what it is you're supposed to be targeting, but the mission descriptions in the manual just obscure things further. Incidentally the manual has evidently been proof read by Ocean's quality control team for F-29: "Ion is a particle of *FILL IN LATER*" (sic)?



This battle sequence looks spectacular. Unfortunately it is only part of the pre-mission animation, the actual battle that follows is not quite as impressive.

Lost in space

To all intents and purposes Epic functions as a flight simulator in space, so you will find all the features that you've come to expect of ordinary flight sims, only slightly less complex. To

Epic



The animated sequences between missions are very atmospheric and probably the most effective aspect of Epic.



The ground detail and general quality of graphics for the game proper is generally very good, it's just a shame that there isn't the same quality of gameplay.

say that the flight systems of the Epic craft are less complex is to say that there are less of them than your average jet fighter and monitoring them is less critical, it isn't meant to imply that Epic's flight systems are easier to interpret; they aren't.

As far as I can determine, navigating towards targets on the surface of planets is pretty much a case of flying around until you find one. You'd think that such an advanced civilisation would have an easier time of pinpointing targets, wouldn't you? Fortunately there are easier ways of getting towards targets (see the panel) but play can be frustrating until you discover them.

A further problem is that you have a limited amount of fuel on board. The manual waffles on about using a tractor beam to collect fuel pods but since you are never shown what these fuel pods look like, collecting them is a bit of a problem. This is not just bad gamesmanship on my part either, since my colleagues who have also played the game experienced exactly the same difficulty. The tractor beam is actually one of a selection of 10 weapons available. These are described in the manual, but it is difficult to tell which is which when you're actually playing the game.

There also seems to be a bug in the program which makes more weapons available for each mission than there actually should be. This would make the missions ridiculously easy were it not for the aforementioned fuel problem and the fact that there is an arbitrary time limit for each mission. The time limit is really only adequately explained for the first mission, in which it is supposed to represent the duration of an eclipse.



ALTERNATIVELY...

Wing Commander II

Origin, £39.99

Wing Commander was arguably one of the most successful PC games yet released. Superficially similar to Epic, you play a fighter pilot in the war against the Kilrathi (humanoid big cats). Where Wing Commander II really scores is that it has the stunning graphics of the original with a lot more depth of gameplay, and that makes it a considerably better buy than Epic if you've got the hardware to run it on.



Mantis

MicroProse, £TBA

This reworking of Glynn Williams's classic game Warhead is being undertaken by American developer Paragon. It looks as if they've retained the superb gameplay but updated the graphics system and added more presentational features. It will probably be worth waiting for this one if you want something with more involved gameplay.



Elite II

Konami, £TBA

Legendary programmer David Braben has been beaver away at the follow up to the most famous game ever for quite some time now, and rumours are that the great project is approaching completion. People who've been privileged enough to see work in progress have returned with impressive reports. If you want the definitive space combat game this has to be worth waiting for.



There are actually only eight missions to fly which, even if the missions were almost impossible, which they're not, is not a very big number. Thirty-two is a bigger number, and coincidentally close to the number of missions in Warhead (to be released on the PC as Mantis), and people even complained that this wasn't enough. Eight missions is really a bit of a poor show.

It wouldn't be too bad if the nature of the missions was varied but it's all pretty much of a muchness. You're either in space dogfighting enemy warships or skimming over the surface of a planet shooting up targets while avoiding bandits. To



TWO MINUTES OF MASS DESTRUCTION

In the first mission destroy the tracking station on Amragan Nine.

The mines float slowly through space and are easily destroyed with a couple of laser shots.

Once enough mines have been cleared, you can make your way towards the planet's surface.

On the planet avoid small groups of bandits. Fighting them is a waste of time.





The enemy
The Rexxans
are not a
particularly
attractive
bunch, either
in looks or
attitude. In
fact they have
a serious
paranoia
problem.

be fair, flying around shooting things is quite good fun but the novelty soon wears off.

Two of the missions have two objectives and the first must be achieved before the second can be tackled, so to be generous you could say that Epic effectively has 10 missions.



The missions basically divide into two types. The simplest are the space missions in which you're objective is to protect the human convoy and destroy as many Rexxon ships or mines as possible. The second, and more interesting type, involves flying over the surface of a planet to destroy one or more primary targets and as many targets of opportunity as you get time for.

The long, the short and the three dimensional

It's easy to be negative about Epic because, for a supposedly revolutionary product, it has so many shortcomings. It does have its good points though. As I pointed out earlier, the presentation is first class, and the 3D is extremely impressive. DID have managed to put a lot of complex 3D objects on screen at once without a great loss of speed. What there is in the game-play stakes is actually good fun, provided that you accept it for what it essentially is: a simple 3D shoot 'em up.

The problem with Epic is one that seems to crop up with a

lot of British software. We have plenty of good graphics artists and some of the best programmers in the world, but we are more than a little short of good games designers. The trouble is that there are too many good graphics artists and programmers who think that they can design good games, and experience sadly often proves them wrong. The United States, on the other hand, seems to have the opposite problem: a surplus of good game designers but insufficient artistic and technical expertise.

So to conclude, Epic isn't a complete write-off, but it certainly isn't all that was promised either.

LAURENCE SCOTFORD

REQUIREMENTS

This is a typical six disk package, so make room on your hard disk. Speed is actually more of a problem on fast machines than slow ones!

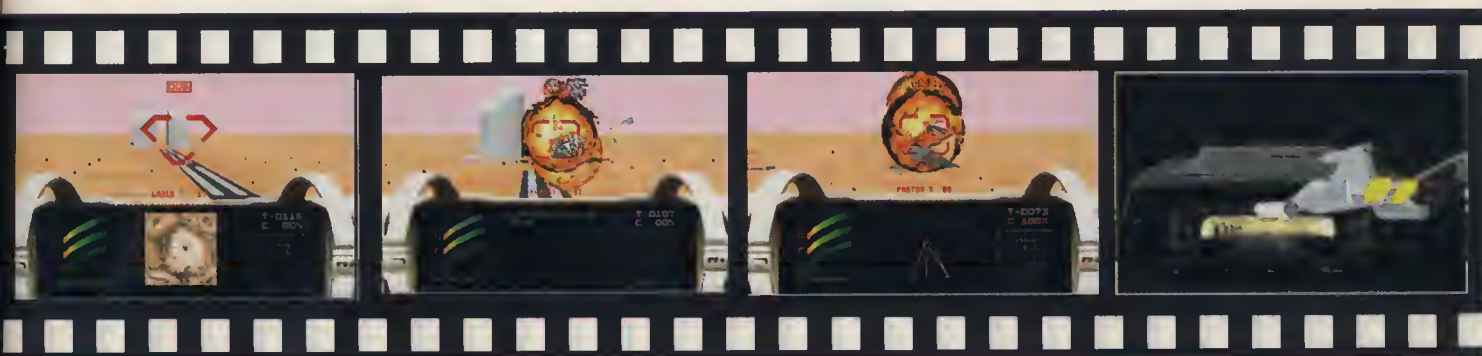
CGA <input checked="" type="checkbox"/>	EGA <input checked="" type="checkbox"/>	VGA <input checked="" type="checkbox"/>	Tandy <input checked="" type="checkbox"/>
Hercules <input checked="" type="checkbox"/>	Roland <input checked="" type="checkbox"/>	Ad Lib <input checked="" type="checkbox"/>	
HD <input checked="" type="checkbox"/>			

The first thing to do is to follow the tracks that lead to the shield generator.

The shield generator must be destroyed before the tracking station can be eliminated.

Once the tracking station has been completely destroyed the mission is over.

Now it's time to get back to the convoy and prepare for mission number two.





SOFTWARE REVIEW

- Title: Leather Goddesses of Phobos 2: Gas Pump Girls Meet the Pulsating Inconvenience from Planet X
- Publisher: Activision
- Contact: 010 33 1 49 10 99 95
- Price: £TBA

Leather Goddesses of Phobos 2

Steve Meretzky returns to the spotlight with a sequel to one of his most renowned titles

Having heard that the infamous Leather Goddesses of Phobos game, the original Infocom text adventure, was to spawn a second game, that the game was to be released under the classic Infocom label, that the author of

the game was to be one of the most famous text adventure authors of all time, Steve Meretzky, it comes as a shock to all Infocom revivalists that Leather Goddesses of Phobos 2 is, in fact, a wholly graphic-based adventure with a mouse-driven interface.

After recovering from this initial shock, these same gamers reel at the package that LGOP2 presented them. Ten high density floppy disks strain to conceal around 15Mb of code. Also, hidden in the corner is a free, as Activision calls it, Lifesize Sound Enhancer — a miniature sound card that plugs into the parallel port offering low quality presentation of the game's digitised voices. The documentation, after all that, is an anticlimax, spanning a paltry 25 pages and with none of the extra 'perceived value' that the original Infocom games offered (ie,



TWO MINUTES OF LIFE IN ATOM CITY

One way to get into the high security Army base: visit Prof Sandler's cellar, and activate his rain-making machine.

From the Sandler's house, go straight through town and beyond, then turn left before the tunnel to find the site of the crashed spaceship.

Turning right from the spaceship, you find that the rain-making machine has turned the dried-up gulch into a torrent. Surely you can now use the boat.

The boat will carry you off downstream. Once the river has dried again, the only way you can go on is through that hole in the fence.





Inside the diner. When in a new location, trace over the whole screen with the cursor to show up which objects can be examined, or token. Here, the bowl should be added to your inventory (in the toolbox, bottom left), as you'll need it later on for some chemical compound mixing.

So what of the plot? Taking place in 1956, you can adopt one of three personas, Zeke, Lydia, or Barth the alien, and the storyline varies slightly according to your chosen character. If you take the role of Zeke, the bourbon-drinking, womanising, muscle-bound garage-owner, your task is to investigate a low-flying meteor and resultant ground explosion not to mention reports of an alien on the run around Atom City – a misnomer if ever there was one. This place is pretty small. However, it does possess a nuclear research station run by the military, hence the name. You'll need to explore Atom City and its environs thoroughly before being removed to carry on your quest on other planets.

those extra bits and pieces, such as the scratch 'n' sniff card contained in the original Leather Goddesses adventure).

The game itself continues the basic Leather Goddesses theme of an utterly silly storyline encased in B-movie packaging. The essence of LGOP2 is sex, titillation and low-cut blouses and this will, for a large part of the gaming fraternity, be the trigger to buying the thing in the first place. In fact, there is little or no sexual explicitness with LGOP2. Lots of cleavage, sure; innuendo, yes; but the overtly steamy stuff ends there.



Moving around is a simple matter of moving the mouse cursor around the screen. Whilst placed in a particular area of the screen the cursor will change shape to a direction, just click to proceed to the next static location. Once you move to a location you have the option to examine it and the objects that lie within. Only a small number of objects are 'live', that is, can be manipulated. The roaming mouse cursor changes to a pointing finger when it encounters one of these. Clicking will either bring up a short text description at the top portion of the screen or, in addition, you will find that the object will detach itself from the background allowing you to place

In the barracks on the other side of the fence, you open the cupboard and, lo, an Army uniform. Put it on immediately.

Wearing the uniform, you can explore the Army control centre without hindrance. These unattended consoles bear closer inspection.

A closer look yields different messages of varying usefulness on each console. Keep a note of the codes you're given for later in the game.

To leave the Army base and walk back into town, simply walk back through the main gates. The program will change your clothes back into civvies automatically.





The pulsating olien has apparently broken out of the courthouse into Dealer Dan's car lot. Time ta laak up Dan, even if he'll only try to flog you one of his second hand cars.

it into your inventory. Once you have an object you can manipulate it in a number of ways. For example, the mere presence of the object will, sometimes, trigger further speech from a character. You can also give them to characters and, finally, you are able to merge them together to form new objects.

Talking heads

Interacting with people is very straightforward indeed. Again, the roaming cursor will change shape to become a mouth when a person is 'found'. A close-up viewpoint of the head and shoulders of the chosen character will appear with a number of icons appearing on the left-hand side of the screen which represent the subjects you can converse on.

LGOP2 surprises not because it contains digitised speech but because *all* speech is digitised. This is some feat and goes a long way to explaining the 15Mb of code lying on the hard disk. The digitised speech itself is, mostly, very well presented. Each character has its own distinctive, voice and speech mannerisms. Also, it is nice to report that when speech has demanded the extension of certain words, that is when a drawl stretches a word over time, the digitisation follows the word all the way. The game does not skimp, clipping the voice's character for the sake of disk space. There is some clipping of speech, where words are cut off, unfinished, but this occurs at the end of some sentences. It is a little annoying, though.

Despite the nice graphical presentation and the sound, however, the game is lacking. Oddly, for a 15Mb game, it is too short! The voluminous graphics and sound are the cause. There is not enough to do, neither is there enough variety. Although logical, the puzzles are frankly not too difficult, and while the graphics are excellent and the 1950s small town US atmosphere is conjured up convincingly, there's just not enough gameplay. Highly enjoyable, but not durable. You are able to play the game three times, in effect as the different characters.

Different puzzles are introduced but the plot is the same and there is not enough extra gameplay to encourage you to return twice more after finishing the game once. Also, I did find a few buglets. The game crashed once, froze another time and,



ALTERNATIVELY...

Leather Goddesses of Phobos

Virgin/Infocom £9.99

Yes, the original Infocom text-only adventure written, again, by Steve Meretzky and still available on budget via Virgin's

'Infocom from Mastertronic' range. No amazing graphics here or long bouts of digitised voices. Just text. But what text! This game is packed full of humour, atmosphere and excellent puzzles that will delight. More importantly it will outlast the sequel by many many hours because this game is packed with thought-provoking gameplay. Unfortunately the budget game does not offer the same standard of presentation that the original had. No 3D glasses or scratch'n'sniff card here.

[illegible]

Space Quest 4

Sierra, £39.99

Another adventure game set in space but this time the genre of the game is slightly different.

Yes, the problems are the same but the player character is animated on screen instead of LGOP2 where the action is, largely, first-person perspective. Space Quest 4 contains similarly excellent graphics and, while it offers no digitised sound to speak of the music is very good indeed using a sound card. If you enjoy the wacky storyline that LGOP2 gives you, then Space Quest 4 may strike a chord as the plot is completely barmy including the Sequel Police and the movement through time and space through prequels and sequels of the game.



Martian Memorandum

Access, £40.99

Martian Memorandum (MM) sees the return of Tex Murphy, first seen in Mean Streets. In MM Marshall Alexander, the President of Terraform Corp, asks Tex to find his daughter. The game is full of intrigue, deception, murder and ranges from Tex's home in San Francisco to the Martian Colonies in the future date of 2039. MM straddles both LGOP2 and Space Quest 4 in that you must control an on-screen character to solve object oriented puzzles but it also offers close up interrogations of characters using digitised graphics and digitised sound in an attempt to convey extra atmosphere.



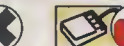
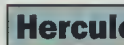
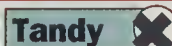
finally, failed to trigger a 'reward' after solving a particular puzzle. Unfortunately, for atmospheric content, I prefer the original text game. In fact, I prefer the original game, period. Leather Goddesses of Phobos 2 is not a bad game, it offers one or two high spots even, but it is vastly overpriced for the minimal gameplay it offers.

PAUL RIGBY



REQUIREMENTS

You'll need a hard disk to play this game with 15Mb of space free. You'll also need 640K or RAM and a machine that speeds along at 10MHz or faster. The 3.5" version of the game is available on request. Well presented digitised voices need a Soundblaster for the best results.





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Virgin's *Wanderland* is still a superbly playable tribute to Lewis Carroll's fantasy masterpiece.

Virgin Games

Virgin has committed itself to CD development this year, and some exciting new projects are planned but, like many major publishers, it is also re-releasing some of its older disk-based games in a CD format.

What is unusual about Virgin's approach to repackaging on CD is that it has avoided the temptation to merely shove two or three games on each disk and then reprint the manuals at an appropriate size. There has evidently been a bit of thought put into Virgin's CD philosophy.

Each of the disks offers an attractive and easy to use menu system. From this you can play a game directly from the CD or install it to your hard disk first. You'll also find some extra value items, including an interactive catalogue of existing products and rolling demos of forthcoming games. Perhaps the most useful addition is a couple of very clever utilities which help you set up your config.sys file correctly.

The general presentation of the disks is also faultless, even down to using digitised pictures of graphics and sound cards on the configuration screens.

The Zork Trilogy £29.99

Virgin has had some success with its budget relaunch of Infocom's text adventures over the last couple of years, but if you missed them the first and second times round you can get them third time lucky by scooping the classic Zork trilogy on a single CD. Infocom's text adventures look severely dated now, but they haven't lost any of their fascination.

A lot of the appeal of these three games is that they are very much in the vein of the original classic Crowther and Woods adventure; you explore an underground kingdom, dealing death and destruction to its nastier denizens and solving some excruciating puzzles along the way. The nice thing about the trilogy is that there is a noticeable increase in the difficulty level if you play them in order.

Supremacy £34.99

Supremacy was a very popular strategy game when it was first released. Your objective is to achieve complete domination of four planetary systems each controlled by a different type of alien dictator. You achieve your aims by careful control of military and economic factors. You can't support an aggressive expansionist policy for example, before you have set up a sophisticated supply chain through mines and factories.

CD Com

Compilations of existing games on

CD-ROM, known in the trade as

Shovelware, are becoming more

commonplace



Supremacy is made all the more playable by the excellent presentation which enlivens what could otherwise be quite a dry game. Strategy fans will find this very absorbing.

The Magnetic Scrolls Collection £34.99

When this collection was first released on disk, the games were all updated to use Magnetic Scrolls' new windows system. This is definitely the way to play a text adventure (although these also include some graphics). The three games included should cover just about every taste. Corruption is an archetypal mystery story. The Guild of Thieves is essentially a series of problems to be solved, while Fish! is a bizarre piece of surrealism which defies description.



The Infocom Collection £39.99

If you are impressed by the Zork trilogy you can get more of the same in this package of four Infocom text adventures. All of the games use the same advanced parser, allowing you to interact with the story in quite complex ways like, 'Put the soggy cat in the cardboard box then put cardboard box in tumble drier. Switch on tumble drier.'



The Hitchhiker's Guide to the Galaxy will be familiar territory to anyone who has enjoyed the books, radio or television series, and slightly more lewd comedy can be had in the original Leather Goddesses of Phobos (see the review of the sequel in this issue). Planetfall has

HARDWARE REQUIREMENTS	
The Infocom adventures are also compatible with Hercules and Supremacy includes Ad Lib and Roland support.	
CGA <input checked="" type="checkbox"/>	EGA <input checked="" type="checkbox"/> VGA <input checked="" type="checkbox"/> Tandy <input checked="" type="checkbox"/>
Hercules <input checked="" type="checkbox"/>	Roland <input checked="" type="checkbox"/> Ad Lib <input checked="" type="checkbox"/>
HD <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>

pilations

Laurence Scotford looks at the approaches of two companies to CD compilations and questions their value for money

you as a member of Stellar Patrol stranded on a hostile planet in the far future, and finally, Wishbringer brings you back to down to earth (well almost), as a postal clerk thrown into a strange parallel world.

Wonderland

£34.99

Magnetic Scrolls has done a superb job of creating an adventure from Lewis Carroll's classic book Alice in Wonderland. This was the first occasion Magnetic Scrolls had to utilise its new windows system. In addition to the text window, you can call up a graphics window (occasionally animated), a map, an interactive inventory and more. Highly recommended to Carroll fans.



One of the two decent products on The MicroProse Collection is 3D Pool, which is worth a look until Archer Maclean's pool game makes its debut.

MicroProse

MicroProse is one of the many firms that would do well to take a leaf out of Virgin's book. It has taken the tired old 'stick it on a disk with a simple loading menu' ploy. There is none of the thought or added value that is evident in the Virgin CD packs.

Railroad Tycoon

£39.99

If it's safe to say 'Nobody ever got sacked for buying IBM', you'd be just as safe with 'Nobody ever got disappointed after buying a Sid Meier game'. Railroad Tycoon, in case you haven't yet encountered it, is a game set in the pioneering days of railways. Your objective is to build a railway empire, competing against the other railroad barons. It's nothing short of brilliant. Buy it!



Midwinter/Gunship

£49.99

A meaty double bill, this one. Midwinter impressed everyone who played it when it was first released and it has stood the test of time well. Fight your way across a 3D fractal generated landscape in an intriguing combination of strategy and action.



Gunship is an early example of MicroProse's excellence in the field of simulation. It is unusual to come across a good helicopter simulation, and this one, of the AH-64 Apache is supreme.

M1 Tank Platoon

£39.99

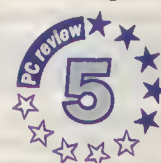
If you really want an idea of how sophisticated modern tank warfare is then you can't go far wrong with this simulation of the M1 Abrams, the most advanced battle tank in the world. This simulation puts you in charge of a platoon of four tanks carrying 16 men, and involves both tactical planning and all the action of the battle.



The MicroProse Collection

£49.99

This is the weakest of MicroProse's current crop of CD titles. Two of the titles on the disk, 3D Pool and Rick Dangerous, are actually very good games with tremendous playability. A third game, MicroProse soccer, is bearable without being anything close to the greatest football game ever released. The whole package is marred however, by the presence of Savage, which, quite frankly, is such a pile of unadulterated rubbish that to call it a waste of space would be a ridiculous understatement.



REQUIREMENTS

MicroProse recommends you have an 80286 or better. There is no hard disk installation option.





SOFTWARE REVIEW

■ Eternam
■ Infogrames
■ (071) 738 8199
■ £35.99

French games have a reputation for being a little unusual, but an entire adventure game set in a theme park?

There's an old adage in computer games (and anywhere else come to that) that it is easier to laugh at a joke than to write one. Very few computer games ever manage to produce real belly laughs in the player, with most references being merely in-jokes that show how 'clever' the programmer is. There are a few notable exceptions to this rule — stand up The Secret of Monkey Island, Lemmings and The Hitchhiker's Guide to the Galaxy — but on the whole, comedy is hardly well served in the computer games world.

Eternam rips that adage from its sockets and jumps on it with a vigour. It is one of the funniest (and most enjoyable — there is a difference) games I've played since the ubiquitous Monkey Island first swashbuckled its way across my PC screen. You wouldn't know it from the intro sequence or the background story, in fact it sets you up for what could be a gripping murder mystery set in a futuristic theme park (akin to the Yul Brynner classic West World and its less than memorable sequel Future World). What you get instead is a light hearted romp through various different 'worlds', attempting to work out who sent you here, why they did it and how to stay alive.

The background to the whole game is that you are Don Jonz, a futuristic bounty hunter with more than your fair share of enemies. Arriving home after a particularly tough case you discover that you've won a free holiday on the theme park planet of Eternam, a sort of Virtual Reality meets Disneyworld (or EuroDisney seeing as Eternam hails from France). On arrival at the planet it's soon clear that not all is as it seems since all of



the other guests vanish and you're left in a hostile world.

You do have a companion on Eternam, a rather delectable young creature by the name of Tracy. To be honest I suspect that the whole 'Tracy' thing was just a big excuse for the graphic artists on the game to use digitised animations of an attractive young model. Still, there's nothing like a bit of gratuitous sex appeal to spur a young hero on towards the finale, especially as there's the promise of a romantic meeting at the end.

You see, Tracy used to be an employee on the planet, in charge of running the computer simulations and such. When the planet was invaded by the villain who's set the whole thing up as a trap for Jonz, Tracy escaped by merging with the central computer and becoming a part of the whole system. Throughout the game she takes to helping Jonz out by appearing briefly to issue clues and advice. If Jonz can overcome the bad guys, get to the final island and free the planet, Tracy will be able to become whole again.

French polish

As is almost always the case with games from the continent, the presentation is superb. Digitised graphics, smooth-scrolling 3D landscapes with a nice collection of bitmapped



TWO MINUTES OF MEDIEVAL MADNESS

"You arrive on the planet of Eternam ready for a good few weeks of rest. Instead the place appears to be deserted. Best follow the path and see where it leads.

No sooner have you gone a few meters than a local inhabitant of the medieval world appears, bidding you welcome and suggesting an immediate visit with the duke.

At long last your destination is in sight, but before you can get to the gates of the duke's castle you are viciously attacked by one of Mikhal Nuke's foul creatures (splt, pahl).

A couple of fireballs later and the creature is no more. Inside the castle even worse awaits, such as Rex the guard dog. Luckily the guard considers you friendly.



nam



Similar to Drakkhen (and using much of the same technology), the 3D views in Eternam are restricted to external locations. The amount of objects on offer — even though almost all of them are purely decorative — is vastly improved and help to give a good feeling of speed.

objects (like Pacific Islands, only much nicer) and beautiful 256-colour interiors all create a marvellous atmosphere for you to walk around in and the colourful (in every sense of the word, thanks to the cartoon animations) characters and witty humour bring it all to life.

There was one slight quirk with the bitmapped graphics (I won't say 'problem' as it didn't affect the game in any major way) in that whenever the PC stopped for a second to update the screen — something that thankfully doesn't happen too often — the bitmaps would suddenly change into something else. All the trees would suddenly become rocks, flowers would become trees and huge water lilies would turn into huge frogs.

The sound was also another impressive aspect of Eternam that suffered from a slight glitch, only this time it's a tad more irritating. The actual music itself is fine, nice atmospheric tunes that fit the various island themes well and aren't in the slightest bit grating. The problem is that they don't always appear when they should, occasionally cutting out when the



Guiding you around this bizarre world is Trocy, your computerised ally. Whenever danger is imminent, whenever she feels you may have missed something or (more commonly) whenever you die, she appears to offer advice, mourn your loss and generally pout and flutter her eyelashes.

disk is accessed and not restarting the second time you enter a location. It's not too damaging though and doesn't really annoy to any major extreme: it just would have been nicer if a spot more care had been taken.

An altogether more appealing aspect of the sound comes on the CD-ROM versions of the game. Whereas the floppy versions only provide you with written text upon the screen, CD-ROM versions (you guessed it) have full speech for all of the characters. It's just another touch that adds to an already overflowing reservoir of atmosphere.

As far as playing the actual game goes, Eternam works very well indeed. The 3D mode may look slightly odd at first, the odd colourings and strange mix of bitmaps and polygons, but it soon grows on you and before long you're not giving it a second thought as you speed along from A to B.

There is one aspect of the 3D sections that while not spoiling the game, don't help it in any way, shape or form. The dragons (sic) are a race of lizard-like creatures who originally

Further into the castle you encounter a poor wretch of a skeleton with not much to do other than pace and moan. He's no use now, but maybe later he'll have something.

Further still and an archway leads to the elusive duke. But why's that guard warning you about a train? Ah ... that's why. Can you believe your own eyes? A train in a castle? This is too weird.

After all that, you've reached the duke, only to be told that to leave the castle, you'll need to complete a series of trials to prove your worthiness. But you've only just got here!

The first trial involves negotiating your way past a huge pair of laser-shooting eyes. Make the wrong move and ... wham! Perhaps you need to disable them?





In keeping with the overall film-like feel of the game, Eternam occasionally changes the view to fit the mood. Upon entering a city, for example, you are treated to a look at the whole area in all its splendour. You are also treated to all manner of close-ups and panning views.

inhabited Eternam before the funparks moved in. Forced to live in abject poverty on a mere sixth of the land that was once all theirs, they were overjoyed when Mikhal Nuke (the main villain behind the whole plot) came along, liberated them and turned them into his own personal army.

Their only purpose is now to kill Jonz whenever they see him, resulting in the main combat aspect of the game. When the alert sign flashes on the control panel, it means that Jonz is in imminent danger of being attacked. His only defence (apart from running away) is to fire a volley of fireballs towards the offending creature. Aiming is all automatic, all you actually have to do is keep the creature in sight.

This would have been fine if not for two things. The creatures themselves are absolutely awful. Poorly drawn two-dimensional sprites that looked like they're all rejects from a very bad shoot 'em up. The second thing is that they're all very easy to kill, each requiring just five shots before they explode. Not much challenge and not a particularly pleasing aspect of the game. One of the two main bad points of the whole game.

A cast of thousands

As you're strolling along (although gliding along would fit the bill better) happily shooting dragons, you're more than likely to bump into the odd character — odd being the operative word. With the story being that you're the only actual human still on the planet (apart from the bad guys), everyone you meet is actually a life-like replica, designed to fit the world they inhabit.

The various characters are all important to Eternam, whether they're providing a wealth of clues, carrying the story along or just providing a comical aside. In general when you speak to someone you are treated to a colourful cartoon animation. This is one of the high spots of the whole game, giving added dimensions to the rather blocky sprites and lifting the whole mood, giving Eternam a style all of its own.

Sadly, it doesn't last as the further you get into the game, the more untidy it becomes. Characters stop having cartoon illustrations when you talk to them, the amount of locations to visit on each island slowly diminishes and the odd graphical glitch starts to crop up. On the plus side it does get a lot harder to solve the puzzles (especially in the Egyptian levels) and the amount of time you spend in each area increases, it's just a pity that the initial enthusiasm and quality from the first couple of islands isn't kept up throughout.

CARTOON DEATHS

Eternam is chock-full of cartoon set-pieces, most of which occur when you kick the bucket. For example, you could be ...



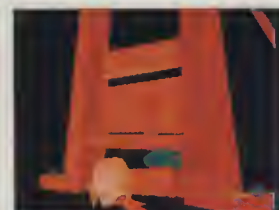
attacked by guard dogs ..



flattened by doors ...



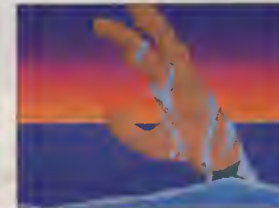
flattened by stone blocks ...



beheaded for lawn trampling ...



beheaded for trespassing ...



or you could even drown in a desert!

Eternam's other main problem is a very irritating system used for conversations. The core of the system is similar to the Monkey Island system, a line or two of text each before you get to choose from a selection of questions, responses or statements. Whereas in Monkey Island you'd usually get the chance to ask almost all of your questions before the conversation ends, here you get to choose one path and can't go back to ask about something else without leaving the conversation and going back into it again. On top of that, when you opt for this course of action, the characters still say exactly the same things and act as if you've never met them before. It's the breakfast TV weather girl syndrome: people that are well presented and look really nice but have all the personalities of wet haddock.

Most of the character encounters take place in the adventure sections of the game, where everything starts to look like the more typical graphic adventures currently available. Mixing the two styles of gameplay could have caused a lot of problems but luckily Eternam manages not only to pull it off, but to pull it off with as much flair as an American wrestling match.

The various settings are all very well realised, with authentic scenery for the historical islands and intriguing locations for



REQUIREMENTS

Essentially Eternam doesn't pose any problems for most computers, the biggest requirement seeming to be the 5.7Mb of space needed on your hard drive. 560K of free RAM memory is the minimum needed, so you shouldn't have any worries from a technical point of view.



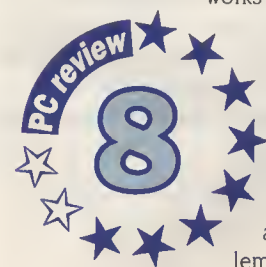
the futuristic or mythical ones. This is where Eternam scores most of its laughs, with so many bizarre events taking place (especially in the mediaeval castle — watch out for the guy up the chimney and the weird wobbling finger) you may not catch them all first time around.

You start off with mediaeval knights and wizards, progress through revolutionary France, go on to a hi-tech computerised world (complete with the cast of Star Trek and the programmers of the game!), take a trip to the moon just in time for the first lunar landing and get lost in ancient Egyptian temples. There are more worlds but I've yet to reach them (my percentage of game completed score is only 65% and doesn't look like rising for some time yet).

Icon see clearly now

Still, as I said, the characters are all-important to the game and if you're willing to persevere they can be very entertaining. Thankfully your efforts at progressing through the game aren't hampered by the overall control method.

A row of icons along the bottom of the screen take care of looking, talking, using and getting while movement around each screen is achieved through the cursor keys. Strangely there's no mouse or joystick option for movement; you can't click on an area of screen and watch the character move towards it. Everything is done through key commands and it works surprisingly well.



A really nice feature is that Jonz identifies useable objects by himself. As you walk around, if you go anywhere near a 'hot' item he'll spot it, a dotted line will be drawn from his eyes towards it and he'll tell you what it is. This eliminates all those tricky identification problems found in other games where you can't tell if the strange brown mess on the floor

is a stick, a snake or a piece of rope.

One thing it does do though is make the look icon relatively obsolete (I've yet to find a real use for it other than to re-identify objects), but on the whole the controls work smoothly and allow you to get on with the important business of enjoying the game.

Which ultimately is what you'll do. I know I did. Eternam is a remarkably enjoyable product, being an intriguingly challenging game, while taking a completely off-beat look at the whole concept of the future and sci-fi in general. I loved the film quotes in the manual, especially the one from The Big Sleep, scene 14, first reel after the cartoon.

Speaking of the manual, it's nice to see that for a French game, it isn't full of what I call Franglais — ie, badly translated English. It's very well written (although the illustrations leave something to be desired) and highly amusing. In fact the whole game has been remarkably well translated, right down to the comedy, an unexpected luxury as humour is usually the first casualty in crossing a cultural divide.

Eternam's aforementioned problems can be extremely annoying. But on the whole it's one of the most entertaining pieces of software I've played for a long time and certainly one of the most absorbing. It's been ages since I've actually wanted to play a game through to the end (I didn't even have the urge to want to complete Monkey Island 2 after a while), but Eternam has rekindled my faith in this much vaunted and often abused genre.

PAUL PRESLEY



ALTERNATIVELY...

Drakkhen

Infogrames, £35.75

Although Ultima Underworld claims to be the first first-person perspective game to use smooth scrolling graphics, Drakkhen actually pioneered the style long before the Origin boys climbed on their high horses with a yee-hah.

Eternam takes the basic concept of Drakkhen's graphical style and improves upon it by adding hills, better bitmap graphics and the cartoon illustrations. It's also a lot more fun to play.



Space Ace

Readysoft, £39.99

Using cartoon graphics to carry a game was an idea first seen in the laser-disc arcade games of yesteryear (and the subsequent conversions). Unfortunately, while the graphics were wowing the onlookers, the player had very little to do himself, simply pushing the odd button or selecting the correct direction at appropriate moments.

It worked better in the arcades than on the home computer front, simply because shelling out 50 pence for a cartoon experience that would soon fade is preferable by far to shelling out £40 for a cartoon experience that would soon fade.



Hare Raising Havoc

Disney, £59.99, (includes Sound Source module)

An altogether more admirable attempt at employing cartoon graphics in a computer game environment was achieved by Disney's own conversion of its mega-famous animated star, Roger Rabbit. Still a pretty standard game, but it was much more playable than the Don Bluth attempts.

Eternam's use of cartoon illustration is far more effective as it doesn't rely on them for the whole duration of the game, instead lifting the mood at appropriate moments and therefore endearing themselves to the player for a much longer period of time.



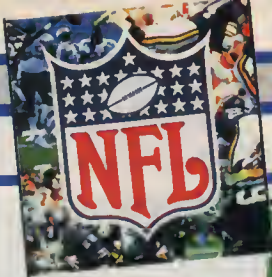
The Secret of Monkey Island

Lucasfilm, £30.99

If it's humour you're after in a game you can't do much better than Lucasfilm's original Monkey Island (although Eternam does give it a run for its money). Taking a sideswipe at everything from Indiana Jones (a Monkey Island stalemate no less) to the ridiculous amount of disks games seem to come on these days, Lucasfilm was able to prove it could do more than just film conversions.

It's arguable whether or not the sequel is better than the original (certainly it outclasses it in the presentation stakes) but there's something about Guybrush Threepwood's first adventure that just sticks in the mind and screams 'classic'.





SOFTWARE REVIEW

■ NFL Football ■ Konami ■ (081) 429 2446 ■ £34.99

Put on your
shoulder
pads, paint
your face,
take to the
field and
ogle the



cheerleaders with the latest in American football sims

I've played a lot of American football games in my time, everything from the legendary John Madden's Football on the Sega Megadrive to TV Sports Football on the Amiga, right down to the 8-bit incarnations of Super Bowl from Ocean. Although almost all of them faithfully recreated the rules of the game while employing a user-friendly control system, none of them has ever really managed to conjure up the same kind of spirit that the real game induces. Sure, they all include a short half-time show with a few cheerleaders or action-packed replays (some even include digitised speech for the commentary), but none of them capture the all-important razzmatazz.

Unfortunately, Konami's NFL Football is in exactly the same boat — a nice enough game that just doesn't have the right sense of occasion. Which is a shame as it has the potential to be one of the better gridiron games, allowing you to deal with everything from creating plays to dealing with injuries (as well as actually playing the games).

In fact, when it comes to options just about everything is taken care of, whether you want to just manage the side, play

in a single position only or deal with all the draft pickings, injuries and other associated 'red tape' that comes with managing a successful American football team.

What's also nice is that all the real life teams are in there (but sadly not the real life players — although you can edit the teams to include your favourite stars of the NFL), something which is often skipped over in favour of city names in other programs because of licensing difficulties. Being able to control the 49ers versus the Bengals is much better than being able to control San Francisco versus Cincinnati.

DIY gameplans

One aspect that works well is the playbook editor, in which you can create your own offensive and defensive plays by picking options from a set of menus. Each menu deals with a different aspect of a play, starting with offence or defence and ending with which player is the designated ball-carrier and where he runs to. Actually, it's a lot of work to edit a team to include your favourites (or yourselves or whatever) and to design a whole



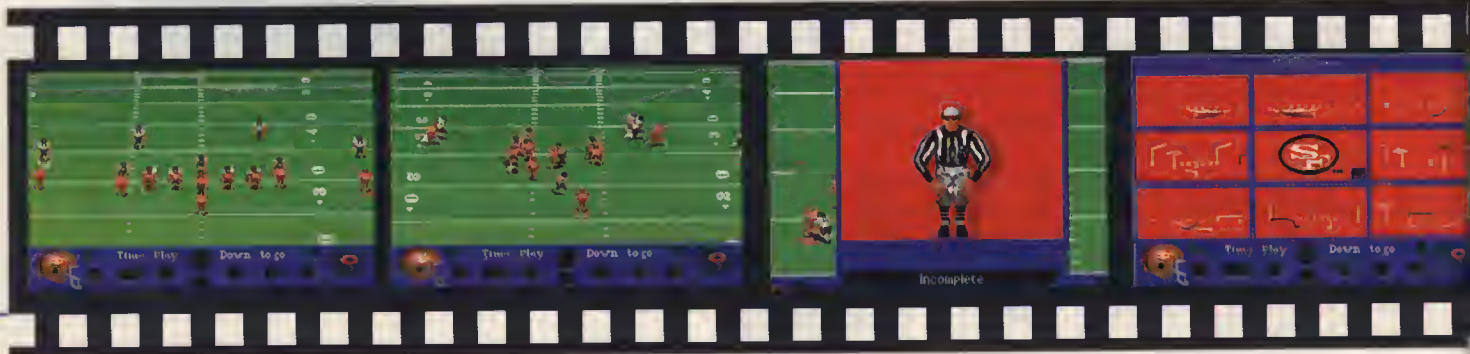
TWO MINUTE WARNING

"And you join us, folks, deep into the fourth quarter. The 49ers are down by four points to the Bears, but are pushing an offence on the Bears 45-yard line. And I believe that was the two minute warning, wasn't it Bob?"

"That's right, Jim. A bit of much needed breathing space for Montana as the clock stops. The 49ers are lining up in a shotgun formation for this first down, the ball is snapped and it's high in the air for Jerry Rice to make the catch."

"Oh no, Rice has dropped it! I don't believe it, Jim — the safest hands in pro football has dropped this 30-yard bomb and that's left the 49ers in a very tight situation indeed. What a turn up for the books! A time out has been called."

"Well, Bob, with just over a minute and half left on the clock and the Bears' defensive line not giving an inch, we can only wonder what's going to happen next. I suspect a run to try and catch them out."





Mike Ditka Ultimate

Football

Accolade, £34.99

Reviewed back in Issue 3 (and notching up a rather tasty seven stars), Mike Ditka tries the old 'get 'em with the graphics' ploy, containing masses of digitised stills and animations, sampled speech and music and even a isometric replay view with polygon backgrounds.

It doesn't play too badly either with a nice selection of offensive and defensive plays and a clear yet concise control method. The one area it does tend to get a little bit tricky is when you pass the ball, but I dare say practice will make perfect.



TV Sports Football

Mirror Image, £9.99

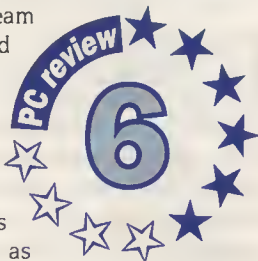
Considered by some to be the 'bible' of American footie games (never quite saw the appeal myself), TV Sports comes from the now sadly-defunct Cinemaware and was one of the first sims of the sport to include all the trimmings of the real thing (such as TV commentators, half-time cheerleaders and even advertisements).

As a game, it's one of the best — but to be honest there wasn't much in the way of competition on the PC until Mike Ditka came along so it pretty much had the field to itself — and it surprisingly doesn't look dated. The only trouble you may have is finding a



book of plays and it is a shame that once you've got your fully customised team you can't save it on to a disk and load it on to another machine to challenge a friend.

Once you're out on the field, NFL does initially look a little disappointing. The players look like low-grade Lemmings with helmets and they move around the field as though on an ice-rink. But the worst is yet to come. Once you've picked a play and watched them line up,



one of NFL's bigger problems crop up — the intelligence of the players. Wide receivers tend to go too wide (haplessly running out of bounds at the first opportunity), blockers tend not to block too effectively and the quarterback doesn't always respond to your 'Throw the ball' command, preferring instead to have four or five huge opponents land on top of him before he releases the pass.

I think a lot of it can be put down to experience though, as despite my uncanny knack of never being able to win a game (except when playing against someone less familiar with the game than myself) I did find it all strangely enjoyable. After a while you stop playing the game using real life American Football strategies and you start to adapt to the faults and work around them, playing Konami's NFL Football instead of real American football.

The manual doesn't help matters, describing the controls and the way the game works but not really helping to guide the novice player through the various finer points of the game (if there are such things). Some kind of step-by-step section would have been a great help, even for fans of the sport.

NFL Football really benefits from a lack of decent competition on the PC, with only Mike Ditka's seeming to be attractive enough to take the honours as MVP (Most Valuable Player). It's all down to whether you are willing to wait for the definitive American football game to arrive or whether you want get on to the turf right away. If the latter is the case, NFL is more than adequate.

PAUL PRESLEY



REQUIREMENTS

Not much is needed in the way of memory and you'll only require around 2.5Mb free on your hard drive if you want to install NFL. Technically it fares pretty well, with no major bugs, corruptions or faults cropping up.



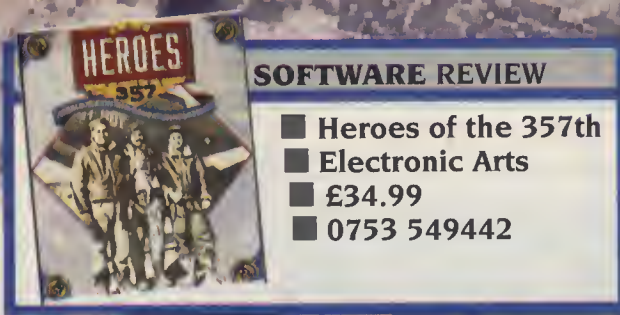
"I agree, Jim, and it looks like Montana does too. They're lining up in the I-formation, he's calling the plays, the ball is snapped and handed off to the running back. A gap has opened and it looks like he's through."

"Yes, he's over the line of scrimmage and going for the endzone. The Bears's linebackers are desperately trying to catch him as the crowd here at Candlestick Park are on their feet and ... oh my! He's been stopped at the 10."

"The clock hasn't stopped though, Bob, and with less than a minute to go and no time outs left, this could well be the 49ers' last chance to score. Montana's wasting no time in picking his play and they're back in formation already."

"The ball is hiked, Montana's looking. Rice is into the endzone. The clock's just run out. It's now or never ... the ball's up, over the line and yes! Into the hands of Rice for a touchdown. The 49ers win it in the dying seconds and the crowd is going wild."





Heroes of the 357th

The famous 357th squadron, which played a major part in defeating the Luftwaffe during World War II, is given a tribute in this accessible historic simulation

There are impressive intro and outro animations showing the plane taking off and landing, and they are easily skipped once you get bored of them.



Following its success with Chuck Yeager's Air Combat, Electronic Arts has decided to look specifically at the plane and squadron that General Yeager first saw action with. These are the P-51 Mustang and the 357th Squadron, affectionately known as The Yoxford Boys. The 357th was stationed in the English village of Yoxford for the last two years of the war and was mainly responsible for escorting bombers over enemy territory. The P-51 was well suited for this purpose because of its long range when equipped with drop tanks. It was also capable of carrying its own small bomb load. As the 357th began to prove its worth it started to broaden its range, with some pilots flying interception and strafing missions.

Heroes of the 357th puts you in the cockpit of a P-51 on a series of missions over occupied Europe. There are five different mission types to fly. Fighter Sweep is a simple fighter inter-

Even a harassed Mustang pilot gets time for a little sightseeing now and then. On this occasion you get a grandstand view of the Eiffel tower





ception; the aim is to clear the area of all enemy fighters. Bomber Escort simulates the standard mission of the 357th, protecting the larger planes from enemy fighters during sorties deep into enemy territory. The Strafing Run introduces low-level action as you attempt to take out strategic ground targets while avoiding or killing enemy fighters and flak. Special Weapons missions are strafing runs with specific targets. Finally VI Intercept has you racing to shoot down one of Germany's infamous flying bombs before it descends on London.

A smooth flight

One thing that is immediately obvious is that the design team has made a definite decision to concentrate on playability rather than accuracy. The P-51 can't have been as easy to fly as you would be led to believe by this simulation. This won't please dedicated flight sim buffs, but then they already have a wide range of products which fulfil their needs. The number of 'simple' World War I flight simulations testify to the popularity of playable games in which the player is not bogged down by a confusion of technical detail and gadgetry.

The Mustang is very good in this respect; the flight instruments are limited to the bare essentials like an altimeter, air speed indicator, fuel gauges and so on. Since you never have to actually take off or land, all you have to really worry about is perfecting tricky manoeuvres during dogfights and these are made easier because the simulation automatically coordinates rudders and ailerons for turns.

Probably the hardest aspect of flying the P-51 is keeping it in the air during a strafing run. You have to keep your speed low so that targets can be hit accurately, but that means that you are constantly in danger of stalling, which at altitudes of

ENJOY THE VIEW



There are many impressive views to be had in *Heroes of the 357th*, as these shots demonstrate.

The combat view (top) shows your plane in the foreground and the nearest enemy in the background, allowing you to take the necessary corrective action.



An alternative view (above) shows your target in the foreground, which can be quite spectacular as you watch your aircraft coming in far for the kill.



When you make a kill (bottom) your moment of glory is instantly replayed and can be viewed from any angle.

500 feet or lower can be fatal. Stalling may also be a frequent occurrence while dogfighting, but this usually happens at a high enough altitude to give the pilot time to pick up speed again and restart the engines long before reaching the ground. In any case you have the option to be warned of imminent stalls and crashes by an alarm signal.

The concession to playability can also be seen in the design of the 3D objects. Firstly, good old filled polygons are back, and you won't find any scaled bit-mapped images or any fancy texture mapping here. Secondly, none of the objects is particularly complex, in fact many are downright crude, and the ground detail in general is never that detailed, even in the highest definition mode. This does mean though that, on all but the slowest machines, you get a reasonably smooth and fast flight.

Before you actually begin your war career in earnest you can fly a training version of each type of mission as well as an addi-

tional type called Free Flight. The latter places you in the skies over Paris in an indestructible plane. You can then practise strafing, bombing and dogfighting without having to restart each time you make a mistake. All the other training missions are flown in exactly the same way as the real thing except that your success or failure is not written to your war record.

You won't find any sort of tutorial in the manual, but then you don't really need one. Flying a couple of practice missions is enough to learn how to control the plane effectively and since you always begin each mission in the air near the target and end it once the target is destroyed, the most tricky aspects of flying (landing and taking off) are completely avoided.

A very good feature of Heroes is that you are free to fly additional training missions at any stage during the game, even if you've already started a war career. This is handy if you find that you are repeatedly doing badly at a particular mission type like strafing. If you do screw up badly though, it's not necessarily a problem; you can opt to fly any failed mission again, even if you crashed or were shot down. Furthermore pilots who are Prisoners of War (POW) or have been Killed in Action (KIA) are kept on file and can be 'resurrected' at any stage of the game. It is therefore possible to play through the entire war with your first pilot if you wish to do so.

On a wing and a prayer

When you finally elect to start a war career you must fly a tour of duty consisting of 34 missions. Unlike the training exercises, in this instance you don't get to select which type of missions you fly. The selections aren't purely random though, they are placed in context within the war effort as a whole. The campaign aspect of the game hasn't been overdone but at the end of each mission you are given a debriefing which explains how the mission has affected the war in general. There are also occasional pieces of major news on the progress of the war.

These little presentational extras aren't really essential but they do add a bit of atmosphere to the game. They continue with a 'meanwhile back at the mess' scene in which your colleagues either pat you on the back or give you an earful depending on how well or badly you've done. Watch out, they're a fickle bunch; they love you one minute and hate you the next.

Before you actually get up into the air there's the usual briefing. In this case it's just a single document which tells you your objective but it's followed by quite a clever feature in which you have the opportunity to learn what your targets look like by watching a short black and white film.

PC review



ALTERNATIVELY...

Secret Weapons of the Luftwaffe

US Gold, £40.99

Lucasfilm made a welcome departure from the norm with this simulation. Not only does it use impressive bit-mapped graphics rather than polygons, making the planes look more realistic, it also concentrates on the more unusual side of World War II warfare. Once again you can fly a Mustang, but this time you're pitched against the Luftwaffe's more exotic experiments.



Chuck Yeager's Air Combat

Electronic Arts, £34.99

Also featuring the P-51, this simulation gives you the chance to fly five other planes from World War II, Korea and Vietnam. Yeager is a lot more technical than Heroes and has an impressive wealth of features, so it's probably more your cup of tea if you want a 'heavier' simulation.



Aces of the Pacific

Sierra On-Line, release imminent.

From what we've seen of Dynamix's follow-up to Red Baron to date, it looks as if it's going to be exceptional. You'll probably need a fairly up-market machine to run it however. This simulation concentrates on the air warfare between the USA and Japan and gives you the opportunity to fly a range of planes on both sides. With more options than you could shake a mouse at and some impressive graphical features, this looks like being the definitive World War II flight simulation.



There's a short take-off animation and a map showing your planes flying to their destination and then you're in the thick of the action. I say 'planes' because each mission is flown with at least one wingman, plus any bombers you are escorting. Your wingmen actually behave quite intelligently without supervision, although you can order them to attack or break off at any time. They will often come to your rescue if you are having

PC review



TWO MINUTES OF FLYING TO HELL

The tension mounts on the ground as I'm briefed on the mission objectives.

The map shows the location of today's target. I can decide whether I'll need drop tanks.

The briefing ends with a short reconnaissance film of the target to aid identification.

Before heading out, I've got to equip the P-51 with the appropriate ordnance.

Briefing Report

TOP SECRET Date Aug 5/44
Leader Col. Hooten
Escort B-17s on a "ravage" to Paris for bombing run on a railway yard.
Opposition: Heavy fighter resistance.



P-51 GRL
FUEL TANK
1100 GAL
FUEL TANK
200mm CANNON
500 lb BOMB
500 lb BOMB
500 lb BOMB

weight: 1190 lbs. avail. weight: 2200 lbs.
max. speed: 437 mph. max. altitude: 35,000 ft.
range: 1,500 miles. max. climb rate: 10,000 ft./min.
R. rate P-51 w/ J.K. 11 M.



Ground detail is pretty good when you get down to the sort of altitudes that strafing missions are flown at. At higher altitudes, major geographical features like rivers are supplemented by speed dots.

trouble shaking off an enemy plane, but by the same token you will be expected to help them out of tight spots too.

The 'intelligence' of the enemy planes has also been well-programmed. They do seem to follow genuine tactics and the competence of the pilots does appear to vary quite considerably. The dogfights that result are often very spectacular. So spectacular in fact that you will positively welcome the action replay feature.

The last few seconds of the action are continually recorded and with a single key press you can replay any moment you like. Furthermore, unless you switch the option off, kills and the destruction of major targets are automatically replayed. It's nice to be able to sit back and review your moments of glory and you can always switch it off if it gets annoying.

A view to a kill

Like all recent flight simulations, this one boasts an impressive range of external views. You can view your plane from almost any angle, but EA has gone one better than most flight simulations and Heroes actually introduces some tactically useful views as well as the standard scenic ones. These include a view looking from behind the plane towards a target or vice versa, and an overview which continually pans around your plane and is a great help in watching out for approaching enemy aircraft.

The most useful additional view, and one which really does increase the playability of the game, is the combat view. This is an external view which has your plane in the foreground and the nearest enemy plane in the background, so you can immediately see how the enemy is positioned relative to you. The clever thing is that you can switch between this view and the standard forward view simply by pressing the second fire but-

ton on the joystick. This cures a fundamental problem with most flight simulations: the difficulty of taking a quick peek over your shoulder during a dogfight without getting into tangle with a complicated sequence of function key presses.

The plane truth

Heroes of the 357th simply doesn't have all the frills that seem to accompany every new flight simulator on the market. The front end is remarkably uncluttered, you can only fly one aircraft, and you don't even get to land it. If that all sounds a bit negative then read on. The design philosophy behind this product has been a good, old fashioned one. Someone at Mid-nite, the development team, has evidently said, "let's throw out all the incidental junk and concentrate on making this playable and fun", and they've managed to do just that.

If you're a military aircraft buff and you're looking for a precise and accurate simulation of the P-51 then you might be disappointed with this, but there are other simulations that meet your needs (see the Alternately panel).

If, like me, you enjoy flight simulations but frequently find them too dry and technical, then you are really going to like this one. You won't have to wade through a doorstop of a manual (its length is largely caused by an interesting history of the 357th squadron), and you won't need to put in several hours just learning to fly the thing.

LAURENCE SCOTFORD



REQUIREMENTS

Heroes comes on one high density 5.25" disk or two double density 3.5" disks. It can only be played from a hard drive, and you'll need 1.5Mb of space to install it. DOS 3.0 is also necessary. You may be surprised to hear that Heroes is still just about playable on an 8Mhz machine.

CGA ☒

EGA ☒

VGA ☒

Tandy ☒

Hercules ☒

Roland ☒

Ad Lib ☒

HD ☒

☒

☒

☒

In flight I can consult a rough map to get my bearing and distance relative to the target.

Bandits! We've been jumped. I'll have to break fast if I'm to avoid being shot out of the sky.

Too slow! The Hun has hit my engine and I'm going in. There's only one hope ...

... bail out. In a few seconds my chute will open and I'll drift down. Will I be captured though?





SOFTWARE REVIEW

- European Championship 1992
- Elite
- (0922) 55852
- £29.99

A game of two halves? A funny old game? A matter of life or death? Nope, football's far more important ...

It's about time there was a good footie game on the PC. Okay, so a rash of contenders appeared just before Gazza did his blubbing act in Italia '90, but not a single one of them was up to scratch. They either put technical brilliance ahead of playability (as in MicroProse's 3D effort) or were just plain silly (like Virgin's 'official' effort which boasted teams of nine a side and goalkeepers wearing flat caps!).

So, with football's popularity on the up and up, another major championship stirring the public's interest and British MS-DOS gaming technology two years older, surely now is the



In the best tradition of football games, you control the player closest to the ball (indicated by the 'spotlight').

European

time for that elusive footie great to finally show itself.

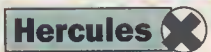
It's certainly got the right pedigree. Elite's 'game of the championship' is actually a conversion of an update of the highly popular Tecmo World Cup '90 coin-op (still with us?), which has managed to remain among the most popular arcade games in the country for over two years now – no mean feat in itself. So we're left with a few questions to ponder: firstly, is it a good conversion of the coin-op; then is it a good recreation of the championships themselves – and, most importantly, is it a playable game in its own right? Let's deal with the last of these first.

If a good range of options is enough to base an opinion on, then this has already made the grade and we might as well stop right here. European Championship 1992 gives the player more options to consider than Graham Taylor, including one or two player games, joystick or keyboard control, support for numerous sound cards, multiple game times, save and load game facilities ... you've probably got the point.



REQUIREMENTS

European Championship 1992 runs perfectly well on even the slowest of machines, but you do need at least EGA graphics. For two player games you'll need at least one joystick, as the keyboard cannot be configured for two.



A GAME OF TWO MINUTES

So, once again England and Ireland take the field to try to answer the eternal question – is Graham Taylor's indecisive team selection preferable to Jack Charlton's 'route one' game? The usual cheerleaders are all in place(?)

Already Mick McCarthy has stamped his authority on the game – or is it just Trevor Steven's ankle? Anyway, the injured party's ankle holding antics suggest that the Japanese developers knew something about the continental game.

A fine cross from Ray Houghton and Niall Quinn rises high to score the opening goal. Chris Woods would have had a better chance if he wasn't permanently confined to hovering outside his six-yard box. The goalkeepers are all automatically controlled.

Half time, and the players leave the pitch to be replaced by the rousing din of a marching band – it's at times like this that you'll be glad you invested in that sound card. Either that or a quick press of the fire button and they'll go.



HALF TIME SCORE
ENGLAND 1 IRE 0



ALTERNATIVELY...

Kick Off

Anco, £24.99

Universally regarded as the greatest footie game of all time on the Amiga and Atari ST, this had somehow become a sad unplayable shambles by the time it reached the PC. Avoid it like a Wimbledon-Luton fixture at Selhurst Park.



The Manager

US Gold, £30.99

Some prefer the sweet smell of the manager's office to the sweaty stink of the changing room – and there are a whole host of 'simulations' designed specifically to fill such needs. Watch out for a full review of this one next month.



in the relevant direction. Buttons A and B also act in different ways when the ball is loose or in the opposition's hands, making the player slide and jump respectively.

In single-player mode, the opposition is just good enough to give you a hard time, while not being so hot as to make you switch off and get back into Ultima Underworlds instead. However, like all sports games, this one is better with a friend along, and if you've got a twin stick set-up then better still.

So how does it fare in the championship simulation stakes? Well, the surprise answer is that even the late departure of Yugoslavia hasn't caused any problems, as you can choose any eight European teams to participate (the developers obviously had to get things going before the final line-up was decided, but this is a positive advantage, as it allows Jack's gallant boys in green to take part after all).

The only problem that arises in this regard is down to the game's arcade parentage. The problem is that you have to win every game you take part in to progress, which may be ideal in

Championship 1992

The best part of all of this is that Elite seems not only to have thought of everything, but has presented it in such a friendly way that you already feel good about the game before the referee has tossed the first coin.

The control is just about as straightforward as you could hope for. One player comes under direct control (highlighted by a natty 'spotlight' effect), while the rest move in an almost intelligent fashion.



The highlighted player's action differs, depending on his relation to the ball: if he's in control, he simply runs in the required direction, with the ball staying obligingly at his feet; to release the ball, the player can choose a low short shot (joystick button A) or Jack Charlton's favoured long ball (joystick button B) –

either way the ball is automatically aimed to the nearest player

arcade terms (because the player keeps pumping coins in to continue after a defeat), but doesn't cut the mustard here – surely it would have been easy enough to alter things so that you could take part in a group set-up just like the real thing.

But then, that just answers our question about how this conversion recreates the original coin-op. In fact, this is something of a triumph in this department, as EC '92's developers have managed the near impossible task of capturing the 'feel' of their subject as well as its look.

It may be something of a backhanded compliment to say that European Championship 1992 is the best PC footie game around ... but it is! One day, someone will come up with a frantic, complex, playable and exciting simulation of Britain's favourite sport which will blow this one's boots off – but that day seems quite a long way off, so maybe you could settle with this one until it finally arrives.

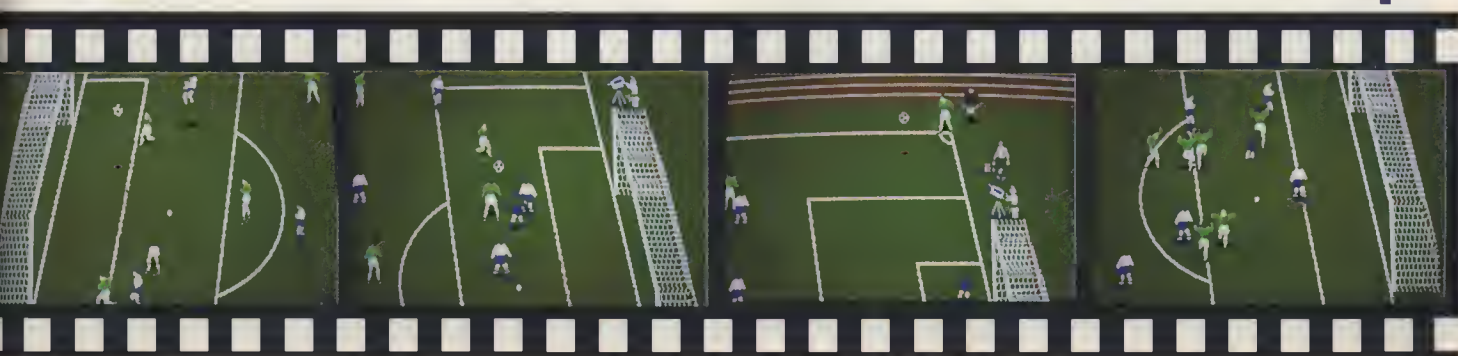
CIARÁN BRENNAN

Into the final few minutes and Gary Lineker scores the equaliser with a spectacular overhead kick – jammy git. You can watch this again in the 'action replay' mode (and you can even save your favourite efforts to disk).

Another fine sliding tackle from Dave O'Leary switches the play from defence to attack (PC Review would like to make it clear that the love Claran has for the Irish side is not wholly shared here and that Lineker's goal was, in fact, a superb effort – Ed.)

Seconds left and the usually dependable Des Walker gives away a corner (by the way, how come old Des is white? Perhaps Ron Noades had something to do with it), can the boys in green capitalise on his mistake or will it be too little too late?

Yes! Tony Cascarino rises high on his hind legs to score the winner (you didn't think it would be another 1-1 draw did you?). Graham Taylor is left to consider yet another permutation of any 11 players from a pool of 200 while Jackle's boys return in triumph.





SOFTWARE REVIEW

- **Carrier Strike – South Pacific 1942-44**
- **SSI/US Gold**
- **£39.99**
- **021-625 3366**

Carrier Strike is the latest offering from one of the high priests of war and conflict – Strategic Simulations Inc. It is a tactical simulation of aircraft carrier operations in the Pacific between 1942 and 1944. This period covers the greatest 'flat-top' confrontations in history, from the Battle of the Coral Sea, through the cataclysmic Battle of Midway, the Battles for the Solomons and for Santa Cruz, culminating in the great Marianas 'Turkey Shoot'.

The designer of Carrier Strike is Gary Grigsby – famed for Panzergruppe, Second Front and the definitive Western Front. The drop-down menu system of Western Front has been further developed for use in Carrier Strike, and is looking better and better. The individual battles can be played on a 'mix and match' basis, or on a continuing campaign basis; note that if the USS Yorktown is sunk at the Battle of Coral Sea, it won't appear at the later Battle of Midway!

Search and destroy

Installation is painless, and copy protection is the normal manual word check. Options allow either two human players, or one or two computer opponents. Either Allied or Japanese sides can be selected, and difficulty is gradable. The documentation is very comprehensive and offers a step-by-step guide through a tutorial. Maps of the relevant battle areas are included, and all ship and plane types are illustrated by line drawings. There is an excellent potted history of carrier development and warfare.

Carrier Strike deals with the two main aspects of carrier operations in WW2. The first was to find and destroy the enemy fleet (especially rival flat-tops). If you can't find them you're in deep trouble, so search operations are crucial. The player can use carrier-based planes, land-based aircraft and (if you're playing the Japanese) even float planes. The planes are designated search areas and will cover a 10 degree arc. Some 36 aircraft would be needed to search the entire perimeter, so it may be necessary to decide which are the most likely zones, but heaven help you if you miss that Japanese battle squadron.

The second aspect is one of flight operations. Carriers are not floating air-fields, they have limited resources, and very limited space. There are several bottlenecks and weak points: the flight deck, the hangar lifts, arming and refuelling.



SSI puts its role-playing developments on a back burner and gets back to its roots with what could be its best war game to date

It is not just a question of deciding to launch a strike and seeing the planes fly off into the blue yonder. Decisions have to be made as to the types of plane involved: can fighter cover be spared, should the bombers have bombs or torpedoes, should the search planes be armed, and therefore slower? Unfortu-

HARDWARE

REQUIREMENTS

Hard disk only, but less than 2Mb of disk space is required. 570K of free memory and an 80286 or better processor is needed.

CGA	EGA	VGA	Tandy
Hercules	Roland	Ad Lib	
HD			



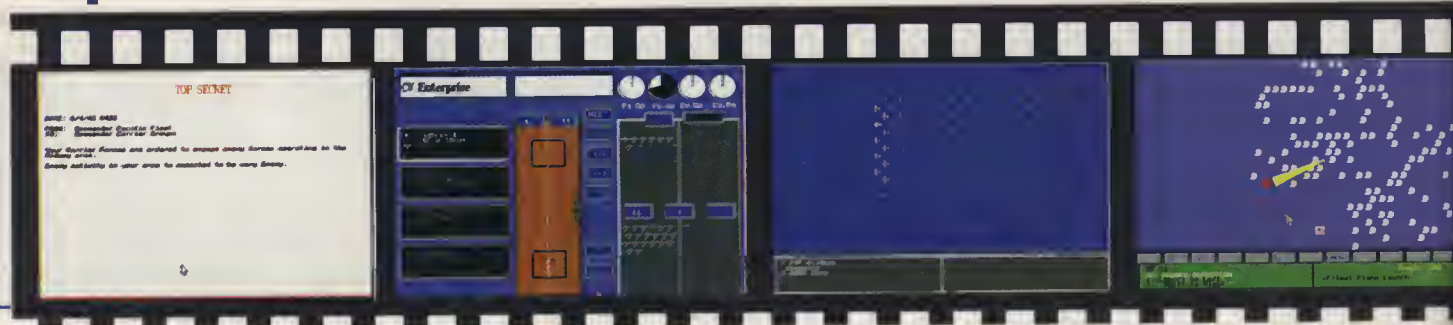
TWO MINUTES AT THE COMMAND OF A FLAT TOP

Your top secret orders – your main mission is to defend the strategically important island of Midway.

Details of Task Force 51, comprising two carrier groups to the north of Midway. Cloud cover is heavy.

Flight deck of the USS Enterprise. Seven F4 Wildcats, and the whole of Scouting Six ready to launch.

Report from the Task Force searchplanes, where are the Japanese carriers and any invasion force?



Carrier Strike

— South Pacific 1942-44

nately the destruction of the enemy fleet will not be your only consideration, strategic targets have to be protected, and your carriers are a limited resource. At the start of World War II the US Navy possessed only six fleet carriers, and although these are replaceable in the long term, survival, and slowing down the Japanese advance is the name of the game. If you play the side of the Rising Sun, time is running out and you must destroy the US Navy and its carriers before the industrial might of the US becomes unstoppable.

The various options often become dilemmas, and are deliberately inherent in the structure of Carrier Strike. The problems were well illustrated at the actual Battle of Midway where the Japanese Admiral Nagumo was caught with flight decks full of re-fuelled and rearmed planes just as the US bombers arrived. The position had been complicated by Nagumo ordering his bombers to be rearmed several times, changing from torpedoes, to bombs, back to torpedoes again. The ensuing carnage at Midway irrevocably swung the balance of power in a deadly five minute spell.

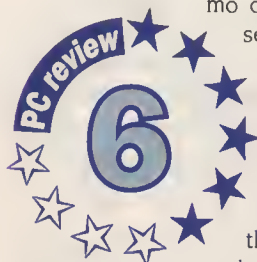
Gameplay is divided into a series of turns, with the order phase being the only real player involvement. All other features such as radar reports, landing aircraft, resolving naval bombardment and combat generally are dealt with automatically.

The product is subtle enough to include items such as the effect, and breaking, of radio silence, submarine contact, emergency landings, airfield damage, shore bombardment and a mass of other factors. There is even rudimentary air-to-air combat, and graphics of the bombing of both sea and land targets.

Previous SSI wargames have been criticised on grounds of graphics, interface and playability. This is without doubt the best graphically presented SSI wargame, a big improvement on earlier releases. The visuals supporting the 'search' routines

are particularly good, SSI do tend to develop a system and use it in other products, so it will be interesting to see what they do as a follow-up to Carrier Strike.

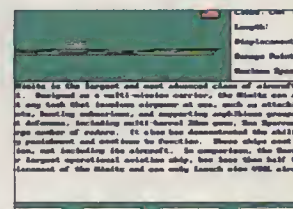
ROBIN MATTHEWS



ALTERNATIVELY... Harpoon

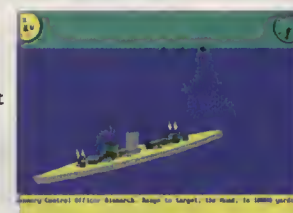
360/Electronic Arts £34.99

It's been around for a couple of years but is still very good as regards modern 'strategic' naval warfare. Covers all aspects, with several scenario disks available. Huge amount of stats and information.



Dreadnoughts Turcan Systems, £34.95

Latest from war gaming specialist author — and the best to date. Surface action between behemoths only — no air or carrier action. Interface needs a little tweaking but a very interesting development.



Action Stations Internecine, £29.99

Heavyweight, text only 'firepower and damage' simulator. Incredible amount of detail, down to the calibre of the weapons, and the thickness of armour plate. Very accurate but lacks in playability. Designed for purists, who rave about it.

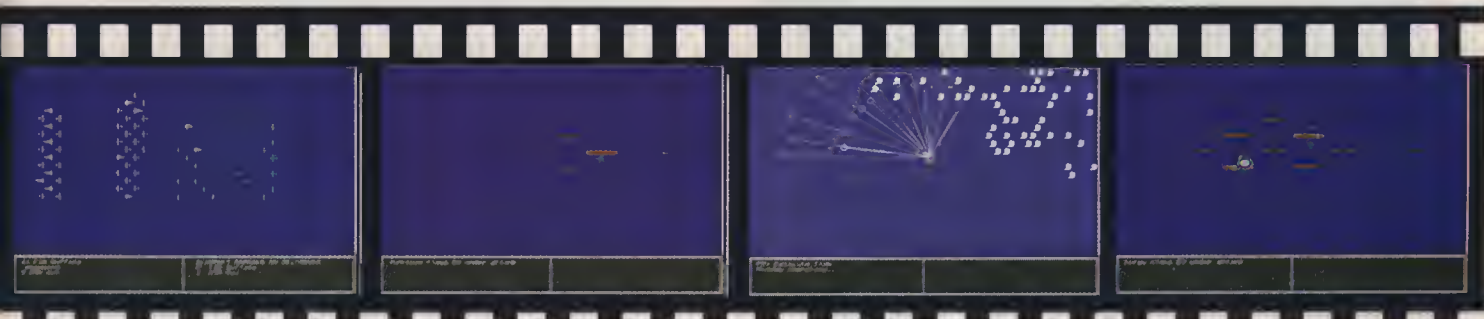


Fighters from Midway attempting to intercept the incoming Japanese fighters and bombers.

Oh no, the bombers got through anyway! Midway takes a pounding from the Japanese carrier's bombers.

The long range search pattern of the US Navy's 'long arm', the PBV5 Catalina, is certainly worth a look.

Time for a successful vengeance! Allied dive bombers attack the Japanese Fleet carriers with gusto!



B-17 *Flying Fortress*

It's a flying experience you'll never forget

We were just kids really and it was our first time away from home. We had 25 tough combat missions to complete before we finished our tour.

We called her a Fortress but she sure didn't seem like one when we were stuck in tight bomb run formation over the enemy target with devilish black flak clouds bursting all around us.

Then, after the bombardier yelled 'Bombs gone!' the mad scramble for home. All ten of us watching for bandits and calling them out: 'Tail gunner, belly gunner, right-waist gunner' as they swept past spitting out shells.

When we had a good run, knocked out a few fighters and were approaching the English coast, still in tight formation; that's when she felt like a Flying Fortress.

B-17 Flying Fortress.

Command the supreme daylight bomber of World War Two, navigate accurately across Europe, locate and bomb strategic targets and defend the plane from furious enemy attacks.

It's a flying experience you'll never forget.

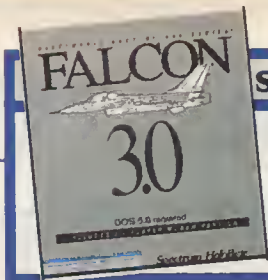
MICROPROSE
SIMULATION • SOFTWARE

B-17 Flying Fortress.

Released first on IBM PC Compatibles, followed by Commodore Amiga and Atari ST.

MicroProse Ltd. Unit 1 Hampton Road Industrial Estate,
Tetbury, Glos. GL8 8LD. UK. Tel: 0666 504 326.





SOFTWARE REVIEW

- Falcon 3.0
- Spectrum Holobyte
- (0666) 504326
- £49.99

The software upgrade has been a feature of business programs for years: Microsoft Word is now in its fifth version, WordStar in its sixth, Lotus 1-2-3 in its third (but with many decimal points along the way).

Games, however, have a one-shot history; a single attempt to get it right and too bad if the bugs turn out to be more than minor irritations. At last, that seems to be changing, if slowly. Nowhere has the demand for upgrades been more vocal than among the buyers of Spectrum Holobyte's Falcon 3.0. Although acclaimed by many, including PC Review itself, as the greatest flight simulator of them all, the first release was very much a flawed masterpiece. From the hard disk installer to key areas



Falcon 3.0c

like gameplay and sound, the first release of version 3.0 was seriously bugged. (Version numbering breaks down a little with Falcon, since each release has effectively been a complete new product with little in common apart from the name.)

Version 3.0 was already late when it first shipped at the end of 1991. To its embarrassment, if not shame, Spectrum Holobyte apparently rushed an unfinished version to market in an attempt to catch the Christmas sales bonanza. To its credit, the company has worked feverishly since in an attempt to put the problems right.

The latest release provided by distributor MicroProse is designated 3.0c: actually the second bug-fix because version 3.0b was never officially released. Still this is not definitive: at the time MicroProse supplied the package, fix 3.0d was available from on-line services like CompuServe and CIX. In our original review, we highlighted several problems – notably the problems with the installer and the sound routines. In version 3.0c, both have been fixed. The installer now works flawlessly, and the sound works as advertised.

A number of problems, bugs and design flaws alike, not highlighted in the first review, came to light much later. Because of the immense complexity of the simulator, many of these were so subtle as to escape detection for weeks. Most of these have also been fixed in 3.0c, and virtually all (apparently) in 3.0d.



REQUIREMENTS

You'll need a hard disk with 11Mb of free space, 1Mb of RAM and VGA display. DOS 5 is an absolute must.



These ranged from the serious: bugs that caused successful missions to be marked as failures; to the bizarre: B52 bombers being given insufficient fuel to reach their targets so bombing missions could never succeed. There were a host of other flaws, too; most of them minor but still frustrating for dedicated flyers. The good news is that Falcon 3.0 is now the program it should have been all along – but one or two problems remain. They aren't bugs, and most of the blame can't be attached to Spectrum Holobyte, but they still prevent Falcon 3.0 rating a perfect 10.

One that can be pinned on the developer is the poor sound support through the built-in speaker although this may seem like quibbling given the tremendous digitised speech and sound Spectrum Holobyte has provided for owners of Sound Blaster, Ad Lib and other add-on sound systems.

The first release of v3.0 was criticised for demanding far more technical expertise of the average user than it had any right to, and our review called for much more explanation of the issues involved. The new package includes a much-expanded guide to installing the program, and does a better job of explaining tough subjects like the differences between extended and expanded memory, but it still needs more.

Even if you have sufficient memory, appropriate sound hardware, and a suitable memory manager like QEMM, you may still need to devote long hours to fine-tuning your Autoexec.bat and Config.sys files before it all works satisfactorily.

In many ways Falcon 3.0 can justly claim to be "the state of the art". The graphics are stunning, the gameplay is vast, varied and gripping; and the presentation, with its digitised sound and speech, short bursts of digitised video, and excellent spot graphics is second to none.

But no game that provides as much challenge in the installation as it does in the playing can claim to be perfect. Falcon 3.0 is the best, but there's still room for improvement.

At the time of going to press, it was unclear how MicroProse planned to deal with upgrades to release 3.0c, and to 3.0d when it becomes officially available, for customers who bought the original version. We suggest you contact the company on (0666) 504326 for details.

PETER WORLOCK

REVIEWED THIS ISSUE

FALCON 3.0c (UPDATE)



LURE OF THE TEMPTRESS



HEROES OF THE 357TH



ETERNAM



EUROPEAN CHAMPIONSHIP SOCCER



WIZARDRY VI



LEATHER GODDESSES OF PHOBOS 2



NFL FOOTBALL



CARRIER STRIKE



EPIC



VIRGIN CD-ROM COMPILATIONS

MICROPROSE CD-ROM COMPILATIONS

PC REVIEW'S BEST BUYS

This month's PC Review Recommended games are Lure of the Temptress and Heroes of the 357th. You'll find these titles on specially dedicated racks in 100 of the leading software stores around the country. Set up in conjunction with Centresoft, the PC Review Recommended scheme helps you to make the right choice when it comes to buying your games.

Previous games to have received the PC Review Recommended accolade are:

ULTIMA UNDERWORLD

Origin, £39.99

A departure from the top-down isometric viewpoint of the other Ultima games, this spectacular role-playing adventure features the best 3D engine yet seen on any game of this type.

DUNE

Virgin, £35.99

The graphics in this game of the David Lynch film of Frank Herbert's greatest book are nothing short of stunning. As Paul Atreides, manage the resources of the desert planet to overcome the evil Harkonnen clan.

SHADOWLANDS

Domark, £35.99

The best British role-playing game to date, Shadowlands features a unique lighting system which creates truly atmospheric locations and situations. Tackle dangerous creatures and fiendish problems with a carefully created party of adventurers.

INDIANA JONES AND THE FATE OF ATLANTIS: THE ACTION GAME

US Gold, £29.99

Indy is back in a fourth adventure created specially for computer games. His task is to discover the secret of the lost city of Atlantis before the Nazi's beat him to it.

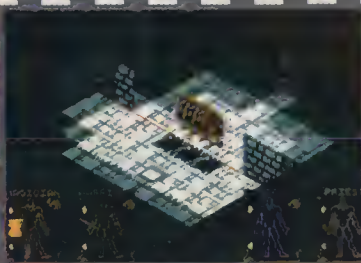
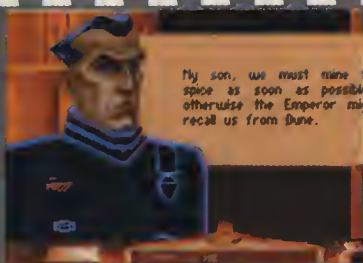
A QUICK GLIMPSE ...

Ultima Underworld

Dune

Shadowlands

Fate of Atlantis



WHATEVER HAPPENED TO...?

If you've eagerly turned to the review pages to check out a game that has been previewed and advertised recently only to be dismayed by its absence, you'll probably find it in our lame excuses' Hall of Fame.

ACES OF THE PACIFIC

We were starting to wonder whether this sequel to Dynamix' Red Baron was going to get off the ground at all. Stories of impending delivery from the States then developed into administrative problems on this side of the pond. Fortunately flying ace Robin Matthews managed to shoot down an early copy and will be bringing you the definitive report in the next issue.



INDIANA JONES AND THE FATE OF ATLANTIS: THE GRAPHIC ADVENTURE GAME

The latest mouthful from LucasFilm has also been taking its time finding a passage across the Atlantic. Our mouths have been watering ever since we caught sight of a playable demo and finally the finished disks landed in our mail sack this week. Read the review next month.



We would love to be able to review every game that ends up in our postbag, but if we did that PC Review would soon turn into an expensive doorstop. So we compromise by reviewing an interesting selection from the software available, not necessarily the best! But to keep everyone happy here's a quick round-down of everything else that should be in the shops soon.

TENNIS CUP II

Loricel, £29.99

The box hails this game as 'highly realistic', not so. The control of the sprite is the poorest I have seen on a sports simulation, where you would expect it to be top notch. You may be surprised to hear that this does not make the game more difficult. It is far too easy to win a match, as by pressing the space bar or fire button at the correct time, your player will run about the court for you. You can also use the cursor keys occasionally to direct the path of the ball. An odd addition to the game is a court diagram, which doesn't help whilst in the heat of the action. Finally, inadequate graphics put an end to the game's chances of being a serious contender to Pro Tennis Tour's crown.

THE DARK QUEEN OF KRYNN

US Gold, £32.99

Readers who are familiar with the likes of Champions of Krynn and Death Knights of Krynn will struggle to find anything new in this average RPG. It has an almost identical control system to its predecessors, the main difference being in the story-line. Once again you face the Dark Queen as the plot takes you across the sea to Taladas. The menu system is easy to learn and use, even for beginners. As it

stands, Dark Queen of Krynn is an enjoyable and challenging game and would be a worthy addition to any collection. Having said that, the other games in the series are so similar that if you already own one of the Dragonlance collection, this game won't offer you anything new.

SPORT'S BEST

Loricel, £24.99

Sport's Best, or more appropriately 'Sport's Worst', contains one of the poorest driving games I have ever played. The car in Turbo Cup has a tendency to roll over when it turns a corner, the control being too poor for a driving game of this type. Additionally, the pit lane is too short to stop in when travelling at high speeds, which, since the object of a racing game is to drive quickly, is somewhat pointless. Unlike its sequel, Tennis Cup requires you to control the off-the-ball movements of your player. This provides a bit more of a challenge, but the controls are rather unresponsive at times. The last of the three games in the collection actually boasts some playability. Panza Kick Boxing attempts to liven up this dull compilation of games. You compete as a kick boxer in either one or two player modes, and is quite a challenging game when you compete in a tournament. This compilation is one to avoid; there are better sports packs available.

Tennis Cup II

Dark Queen of Krynn

Dark Queen of Krynn

Panza Kick Boxing



QED

Welcome to another month of guides, maps, diagrams, solutions, hints and advice. With Heimdall to lead the way, we're bringing you four pages of Ultima Underworld tips, the continuing adventures of Star Trek and all the usual hints, tips and Help! queries ...

HEIM

Continuing our trip into the mythical world of Norse warriors.

Side A is reached by means of leaving Island No. 1, landing and climbing the steps to the summit. After a maze section through a marsh area, you reach the village of Gedsborg. You have to fight your way through to the entrance of an underground section. You may also reach section A via a bridge from section B, if you had sailed from Island No. 2. In that section is another village, Jerrsborg, a trading centre. At the start of your voyage, you have with you a small amount of tradable supplies with which you can barter for needed goods or info. Crossing from A to B is via a bridge on which stands a fierce warrior. He has to be defeated for you to be able to complete your quest.

Beneath the village of Gedsborg

A — From where you start the maze section.

M — Monsters. Some are positioned in the corridors, while others are hidden behind doors in the corridors. Should you open one of these doors, the monster will attack. If you walk past a door, the monster will open it and attack from behind.



K — The key you are looking for. Hidden

in one of the monster rooms.

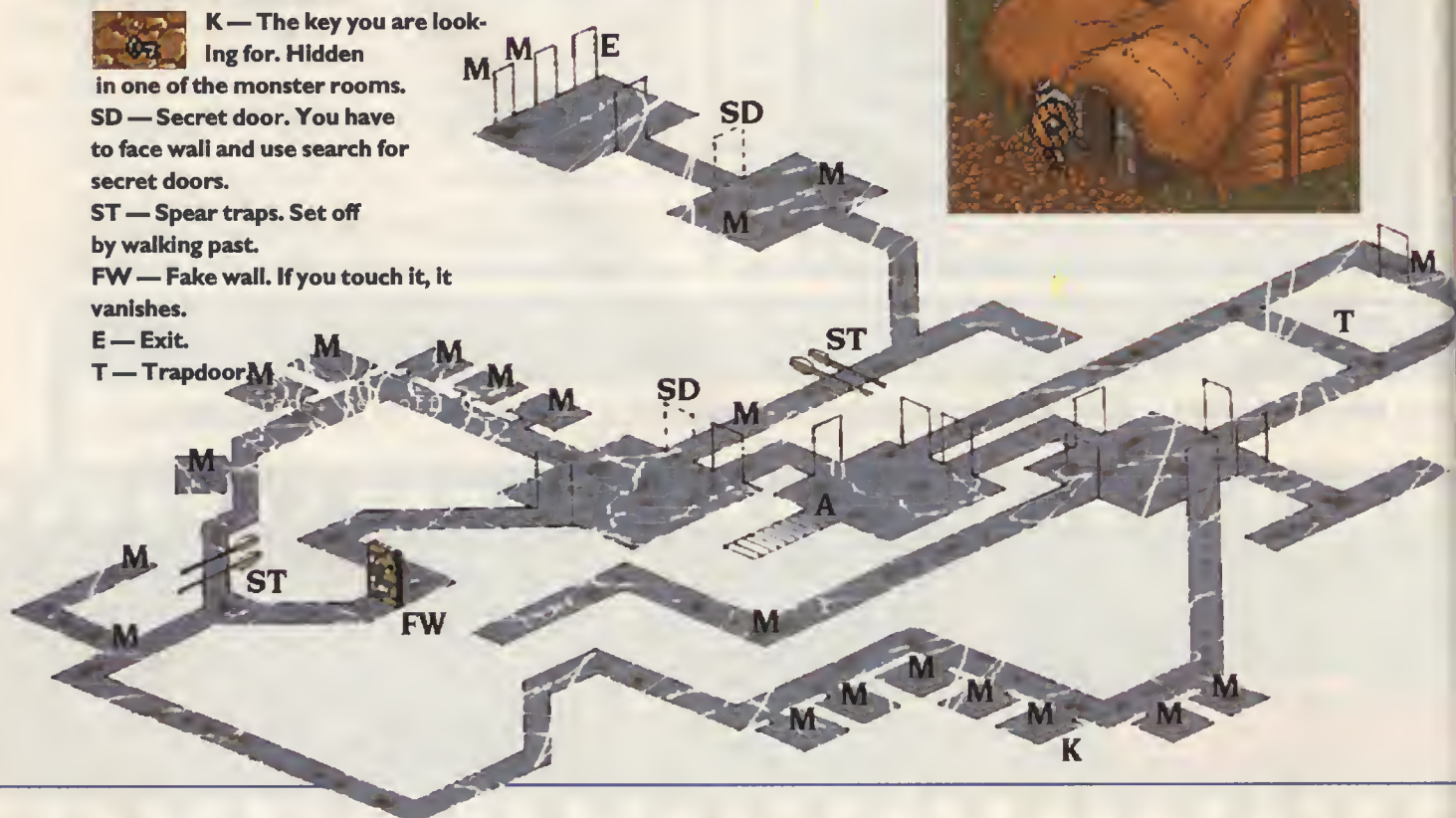
SD — Secret door. You have to face wall and use search for secret doors.

ST — Spear traps. Set off by walking past.

FW — Fake wall. If you touch it, it vanishes.

E — Exit.

T — Trapdoor



Maze starts at point S. Simple small island with four chests hidden in a tunnel system of ditches, fallen logs and rocks.



C1 — In chest 1 is a spell of illumination.

C2 — Chest 2 is trapped and is empty.

C3 — Chest 3 is trapped and is empty.

C4 — Untrapped plus a spell of replenishment.

C5 — Also untrapped and a spell of invulnerability.

Pits (P) and invisible pits (IP) are scattered over the pathways.



ST — Spear traps.



M — Mantrap.



W3 — Scroll with clue for word 3. The third word is another name for a divine being.

being.

SC — Silver coin.

K — Key for Island 6.



Island 3 A



Make sure you explore each island thoroughly before continuing on to the next, as you may miss all manner of extras. Villages contain plenty to keep even the most hardened adventurer busy, such as these hostile natives.

Next month we continue Heimdall's Nordic exploits with islands 4, 5 and 5A.

After the mammoth Help! Wanted column back in Issue 8, we now bring you the mammoth Help! Supplied column to supplement it. Remember, we give software prizes for everyone who's reply is printed so please state your machine's specifications (disk size, graphic cards, sound boards etc.) to help us select your game.

Eye of the Beholder for Ashley Brady, Pinner:

Now that you've found the dwarven prince you should take him up to level 5, to the area where you picked up Dohrum (by the way, if you've only just picked up the prince you are on level 10). You'll be given the wand of Silvias by the grateful dwarves and you can now go and kick Xanathar's butt. If the ring you found was on the same level as the Prince then it's the Ring of Featherfall. This means you won't be hurt when falling through holes.

Prince of Persia for John White, Berwickshire:

To join up with your image, put your sword away (by pressing down) and jump into him. Do not attack him as you will lose strength points. Howard Roscoe, Cheshire



Prince of Persia for Nicholas Shelton, London:

Move to the left of the screen where you will see a deep chasm. Take a flying leap off this and you will find that a path appears. Run along to the left.

King's Quest V for Alexander Noble, Newcastle-Upon-Tyne:

Open the pouch and you will find three emeralds. Go to the place where you squeezed the honey (to the left of the witch's house) and by using the stones as bait, capture the elf. He will give you a pair of shoes (for the cobbler) and leads you out of the forest. When you go back to the gypsy encampment you find that they have gone leaving the tambourine behind. Chris Callander, Marlow

Bard's Tale 2 for Stephen Naysmith, Edinburgh:

The following is a map of level 4 of the starter dungeon which should be of some help. In addition, before you arrive at this level you should be sure to have encountered the winged creature on level 2. Allow him to join your party as he is needed towards the end of this final level. You also need a bard in your party. The following is a key to the map:

- A — This door leads to a section which is darkened by magic. There are two areas of interest (B and C).
- B — This is a regeneration square. Use it to regain those vital spell points for the impending battle.
- C — This small room has a teleport square (to access D).

D — After teleporting, move north twice. You can now cast a light spell.

E — At this point you will encounter a chasm. The winged creature will then fly each member of the group across.

F — At the double doors make your bard play the watchwood melody.

G — Before stepping here it would be wise to save the game. Upon entering, you will encounter a lot of tough demons.

H — After killing them you will encounter the princess.



Allow her to join the party and step east to be teleported near the entrance of level 4 (I). Make your way back to the start of the dungeon. Say 'old' to the fireball juggler. Raymond Chitolie, Wood Green

The Adventures of Willy Beamish for Claire Davis, Birmingham:

To get into the sludgeworks, two items are needed, the magazine from the bar in West Frumpton and a security card from the office in the plumber's union. To get the card, go to the union, open the window and climb in. Once inside, quickly take the security card from the desk. When Louis comes in, throw the plunger on to the floor and get out of the window. Next go to Willy's jet ski and remove the radio. Take the radio to the plumber's union and go into the telephone box. Put the box on the ledge and turn it onto record, then phone 432 7446 to record the horoscopes. Stop the tape and phone the Golden Bowl number and play the tape. Go to the bar, Ray will be on the phone so go in. Give the man behind the bar your lottery ticket and take the magazine from the bar. Go to the sludgeworks and give the magazine to the group of men. Go to the booth and give the security guard the pass and he'll let you in. Roy Roger's dog was called Bullet. Edmund Conway, Wimbledon

Are PC games just too darned hard for you? Then why not try out the PC Review Help! Wanted column? For the price of a stamp, an envelope and a sheet of paper, you can receive the answer to any query on any game. Alternatively, why not try our Help! Supplied column if you feel you can help someone out. Mark your envelope either Help! Wanted or Help! Supplied and for those that rescue a stranded soul you'll get yourself a free piece of software (tell us your machine's specifications).

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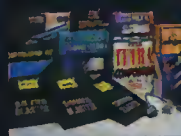
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For a long time multimedia has been perceived as little more than a buzzword for expensive hardware and software add-ons beyond the reach of the majority of users. Things are beginning to change however as the Creative Labs range of affordable audio, video, CD ROM products and software/hardware accessories become more and more established as the preferred choice of business and home users of personal computers.

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A GUIDE TO THE STYGIAN ABYSS — ULTIMA UNDERWORLD



PART ONE: STARTER GUIDE AND LEVELS 1 AND 2

Ultima Underworld from Origin rightly claims to be the first true Virtual Reality game for the PC. Role-playing will never be quite the same as a result of this innovative games engine and there is no better introduction to fantasy games. So here is a guide to use as you take your first faltering footsteps in the ancient subterranean maze that is the Stygian Abyss.

THE FOUNDING OF THE COLONY

At the conclusion of Ultima VI — The False Prophet, the war between the Gargoyle race and the inhabitants of the world of Britannia was resolved. The Codex of Ultimate Wisdom was placed in the Vortex, on the Isle of the Avatar and via two lenses, made available to both civilisations.

A new town of Virtue was founded on the Isle of the Avatar — actually within the Stygian Abyss. This colony was the concept

of one Sir Cabirus and was settled by a mixture of the various races of Britannia — knights, trolls, goblins, seers, etc. The dream was of a new city to be created with the various races living in harmony and abiding by the usual eight Ultima virtues.

However, for unknown reasons the fledgling city slipped into chaos and anarchy. The various races formed their own communities and separated on to different levels of the Abyss. Monsters and demons are to be found throughout the lower levels, and there is even a suggestion that the Abyss itself subverts the minds of any inhabitants.

WRONGFUL ARREST

As the story unfolds, you are whisked off once more to the fabled land of Britannia, just in time to witness the kidnapping of Ariel — the daughter of Baron Almruc. Unfortunately, as the guards arrive you are arrested as the culprit and put before the somewhat peeved Baron. In the best kangaroo court fashion you are thrown into the Abyss and told you won't get out until Ariel is freed.

The game proper starts with you on level one of the Abyss, facing at least another seven levels of goblins, trolls, ghouls and other extras from the cast of Nightbreed. Underworld consists of sub-quests on each level, and a main plot-line involving the finding of the eight talismans of Cabirus.

The initial character generation allows you to choose from various 'professions', each having their own particular strengths and weaknesses. All professions appear able to use magic, so a fighter, or paladin seems a good choice. It may well be worth while re-rolling your character a couple of times to get the best stats.

SKILLS AND MANTRAS

As you explore the Abyss, discover items, and solve quests you gain experience. These points will eventually raise your character level. Most levels of the Abyss have at least one shrine — if your stats have increased you can visit the shrine and chant 'mantras'. Each mantra will increase a particular skill or skills. These increases vary (especially with the 'multi-mantras') so it is worthwhile taking a save, chanting the mantra and checking the result. If it is not the maximum advance, restore your save and repeat the chant. In this way you will get your stats up very quickly.

The initial mantras are listed below:

SUMM RA — attack (various)
MU AHM — mana/casting/lore
OM CAH — various
HUNN — dealing
UN — bartering
LON — repair
LU — eyesight
ANRA — defence
SAHF — Tracking



- | | | | |
|--|---|---|-------------------------------|
| 1 — Sack (food, dagger, map, torch) | 10 — Two poles, sling, cauldrons | 22 — Ruby, stone key 1 (cold to the touch) | C — Serviceable silver cowl |
| 2 — Sack (candles, mushroom, cudgel) | 11 — Braght's cell, pole | 23 — Bottle of water, red gem | D — Goblin encounter |
| 3 — Bowl, axe, torch | 12 — "Keep Out" | 24 — Levers | E — Entrance |
| 4 — ORT and JUX stones | 13 — Three spikes, leather gloves, food | 25 — Korlanars grave, resilient sphere, unblemished sceptre | F — Magic fountain |
| 5 — Pack (scroll, rune bag (BET, IN, LOR and SANCT stones), red key) | 14 — Leeches, red gem | 26 — Crystal ball | G — Gullk |
| 6 — Food, leggings | 15 — Wolf spider (thread), leather vest | 27 — Plants, green potion | H — Hagbard |
| 7 — Bedroll | 16 — Pipe, food | 28 — Lockpick | I — Jaacar |
| 8 — Rotworm, wooden shield, lever to open door at A | 17 — Goblin | 29 — Candle | J — Ketchaval |
| 9 — Shortsword | 18 — Lanugo | 30 — Droq | K — Stone key 2 |
| | 19 — Vernix | A — Locked door (lever at 8 opens) | L — Oil flasks |
| | 20 — Chest (MANI and YLEM stones) | B — Braght | M — Red key locks |
| | 21 — Goblin fight, cudgels | | N — Stone key locks |
| | | | O — Silver sapling |
| | | | P — Grand staircase (blocked) |

The first couple of advancements should be concentrated on your magic abilities — the mantra MU AHM affects three possible skills — mana, casting, and lore:

Mana is the number of spell points you have available. The more mana you have left, the more and higher spells you can cast.

Casting is the 'skill' of spell-casting. The higher your casting ability, the higher your chance of success with a spell (as opposed to a dull phut or worse still, a backfire!)

Lore is the ability to identify items — the better your lore rating, the more detailed will be your assessment of an item. Often that ring you threw away on level two ends up being the 'Magic Ring of Poison Resistance' — if only you'd known.

SECRET STORES

During the game, inventory management is important. You are limited in the number (and weight) of items you can carry. To avoid dropping items willy-nilly it is good practice to make a series of 'ammo dumps' to put items in for later. If not you may find yourself in the latter stages charging round each foot of the 25 odd miles of the Abyss looking for a particular musical instrument, that you remember putting down somewhere. Ideally make these 'dumps' in an enclosed room to avoid the Abyss locals having a finders-keepers sale.

With regard to lore, this may take some time to build up, a good alternative early on is the spell — name enchantment (WIS YLEM). This should avoid you throwing away useful items.

Magic is cast by having enough mana and by possessing the correct rune stones. These stones are found throughout the game — it is worth exploring as much of a level as possible before moving on — those rune stones on level two might well have been very useful on level four!

A degree of dexterity is required to succeed in combat — especially later in the game. Practise techniques on the riff-raff now, in particular, experiment with the three types of attack (thrust, bash and slash) and also with full power (slow) blows and half-power (quicker) blows.

Don't be afraid to leg it at this stage if things are too tough. The monsters won't go away and later they may be child's play.

The default interface is worth sticking with until it becomes familiar and the combat system must be practised. The mace is a very useful weapon/skill and will open some locked doors. On the other hand there are some very potent swords later on — which ever you decide to develop, stick to it — you will need to get your sword or mace skill up to 25-plus!

Finally, some general points on combat. Poison can be annoying. Leeches are dotted throughout the game and will cure poisoning, as will certain potions. Time will also cure, but only if your character has enough vitality.



- | | | |
|---|--|--|
| 1 — Sapphire | 16 — Small shield, battle axe, chain boots | 35 — Mail shirt |
| 2 — Excellent leather gloves, oil flasks | 17 — Green and grey mushrooms | 36 — Better eyesight mantra — LU |
| 3 — Yellow key, three gems | 18 — Lantern, oil, spike, boots | 37 — Gemcutters amulet |
| 4 — Spiral room, red and green potions | 19 — Crown, rock hammer, coin, cowl | 38 — Six spikes, blueprints, UUS stone |
| 5 — Six Goblin fights | 20 — Brawnclan | A — The golden maze |
| 6 — Barrel (Mace, red potion) | 21 — Supply room | B — Ironwilt |
| 7 — Bow, gloves, sling and ammo | 22 — Mountain man | C — Goldthirst |
| 8 — Candles | 23 — Quarters of Corby | D — Chipped gem, inset key |
| 9 — Wooden shield | 24 — Quarters of Mondor | E — Leeches |
| 10 — Hunn scroll | 25 — Daylight scroll | F — Machine room (from level five) |
| 11 — Mandolin, leeches, port, torches, food, corn, ale | 26 — Golem, treasure trove | G — Shrine |
| 12 — Pouch (Incense), torches | 27 — Steeltoe | H — The spiral room |
| 13 — MANI and HUR stones, excellent mace, scroll (IN SANCT — defence) | 28 — Shak | I — Light green potion |
| 14 — Scroll (RA — mantra for better attack), spike | 29 — Hewstone | J — Use rod to open portcullis (levers behind) |
| 15 — Scroll (UN — mantra for better deals) | 30 — Dangerous understore | K — Blocked stairway |
| | 31 — Wand, boulders | L — Orb |
| | 32 — Empty box | M — Chipped gem locks |
| | 33 — Rock hammer, oil, fishing pole | |
| | 34 — POR and YLEM stones | |

TRUTH, COURAGE, HONESTY AND ALL THAT

You must also remember that you are the avatar — a thoroughly nice chap/lass. You should help old ladies across the road, take thorns from out of trolls' feet etc. The eight virtues are how you live. Do not steal items that are described as belonging to a character or race. Other items that are not described as belonging to anyone appear to be fair game. This must be followed — otherwise you may end up having to slice up a NPC who would have told you about the ...

The abyss is a dank, damp, dark old place and you need a form of light. Lanterns throw off much more light, for longer, than candles, but one of the talismans is in fact an endless provider of light.

THE LEVELS — A GUIDE

Remember, each level has a series of sub-quests and there is the main quest of recovering the eight talismans of Cabirus:

The Book of Truth
The Ring of Humility
The Cup of Wonder
The Shield of Valour
The Standard of Honour
The Sword of Caliburn
The Taper of Sacrifice
The Wine of Compassion

LEVEL ONE: THE GOBLINS

Levels one and two of the abyss are really introductory, designed to get you used to the interface and combat system. On level one make sure you speak to Brag-it and that you also find and re-plant the silver sycamore. This is both an insurance

policy and a handy method of transport.

The ankh room is in the south east corner of level one and entry is a little tricky. From the main passage, ie, to the south of the locked ankh room door, jump north on to the column. Now face east and jump on to that column. If you now face south you will see a secret alcove with a button. Using the button will open the door to the ankh room. Now all you have to do is jump back!

Swimming is useful to get to some hidden areas, but if you're going blue in the face, be careful. You are drowning! Another of the shrine mantra's will help you out here. The waterways are the home for lurkers. These are more of a nuisance than anything, particularly as you cannot enter combat mode whilst swimming.

If you 'lean over' from dry land, you can sometimes fight the lurkers, but the best method is to use either the magic arrow (ORT JUX) or lightning (ORT GRAV) spells to blow them out of the water. Be careful though, some of their later relations are a bit tougher!

LEVEL TWO: THE MOUNTAIN FOLK

The game really starts now, this level having two sub-quests. The first involves the absent-minded and well named Ironwit. He's lost his A to Z of the abyss. This is quite a tricky problem, you need to solve the spiral room, the golden maze and also need to study the excellent auto-mapping very carefully. Hidden doors will be shown on the map (again your skills help here) and the solution to this problem is a 'tall story'.

The second sub-quest is a contract from the king of the mountain-folk. They are plagued by a beholder-type creature in the mines. Some flintstone technology will put you on course for a tough fight with the gazer, who can be dispatched. This quest must be completed as it is part of the main plot.

The mines are worth exploring in detail so take the plunge! Shak is definitely worth knowing and will be needed to make whole that which is now in two. If you haven't found either part don't worry, it's early days. By this time your character should have gone up a level or two so use the save/mantra/restore routine to your advantage.

Don't spare the rod if matters appear out of your reach (you should have had

this clue back on level one). This will give you sight of things to come, but take your time while you can — things are just about to really start happening.

LEVEL THREE: THE LIZARDMEN

Level three is the domain of two species of lizardmen (green and red) and a splattering of banditos. Don't tolerate the latter: they should be sorted out whenever met. You will enter the level from the north, to the middle. A series of teleports will flash you round the area, but pause for breath after the first teleport. This will allow you to explore the central section, in particular to find a shrine and also a phobic personality. This will be an illuminating experience later on.

Down south you will find lizards of both races, but their common language will be a mystery. In one of the rooms is a prison cell, in it is a wretched creature — Murgo. He is assistant of the seer Dr Owl, who resides on level six. Murgo is dumb, but can understand the lizard tongue. By a

series of charades and trial and error, you will develop a working knowledge of the lizard language. If not, read below:

THE LIZARD LANGUAGE

Bica — hello, goodbye
Isili — me
Eppa — visit
Thepa — lizardman
Thesh — like
Yethe — kill, murder
Sstresh — help, aid
Thes'click — dislike, hate
Sel'a — give
Zekka — food
Sorr — enemy
Kri'kla — monster
Sseth — yes
'Click — no
Sorra — steal, take
Yeshor'click — friend
Ossili — enough
Sor'click — stranger

This will allow you to secure the release of Mungo — and at a later stage Dr Owl will be so impressed by your efforts he will



- | | | |
|--|--|--|
| 1 — Leather vest, plant, torches | 12 — Iss leek | green potion |
| 2 — Lever (default is down) | 13 — Pull chain | 22 — Oulver, crossbow, torches |
| 3 — Boots, shield, lantern, leggings (lever at 2 creates rats) | 14 — Buttons (see 15) | 23 — Green lizards |
| 4 — Go to the base of the Abyss — then battle your way up | 15 — In plants (left, right, centre) | 24 — Wand, REL stone, rubies, thieves hideaway |
| 5 — Lizard key (red), DES stone, food, candle | 16 — Book (FAL for better nimbleness and tumbling), green potion | 25 — Breastplate, lantern, gold |
| 6 — Scroll (look for thieves hideout behind storage room), gold key E & W. | 17 — Magic crystal eposes hidden tombs and monsters | 26 — Blade |
| 7 — ORA mantra for unarmed | 18 — Grey lizardman | A — Teleport to B |
| 8 — Bandit encounter, lantern, sword, boots, "Tom loves Judy" | 19 — Ishtass | B — Teleport from A, teleport to C |
| 9 — Light mace, leggings, gold | 20 — SANCT and HUR stones, book and scroll (Search for blade in south-east. Behind wall secrets are. Ask Shanklick about crazy wizard. Scroll to Ossikka.) | C — Teleport from B |
| 10 — Lizard key (green), green potion | 21 — Book (SAHF mantra for tracking), POR and ORT stone, | D — Green lizard lock |
| 11 — ANRA mantra to protect | | E — Various lizardmen |
| | | F — Shrine |
| | | G — Mad wizard |



assist in finding a Talisman. Once you've completed the language course, make sure you speak to all of the lizard folk.

Level three contains several of the talismans, only some may be available at this stage of the game. The blade of the Sword of Cabirus is here, hidden in the south east corner. You are given clues and the map printed here should move you in the right direction.

Several runestones are waiting to be discovered: in particular the WIS stone that may not be found elsewhere.

Finally for this level, don't forget a bit of wall-banging to find the thieves' hideaway.

LEVEL FOUR: THE KNIGHTS OF THE ORDER OF THE CRUX

This is a very busy level with several sub-quests, various puzzles and some tough fights. Firstly, remember not every creature is an enemy — it's good advice to look at your opponent, if not 'hostile' it is unlikely to attack and may have important information.

If you are in combat, look at the colour of your opponents' eyes — if they are red he's in real trouble. Also use the 1 and 3 keys to lower or raise your plane of attack and use the most appropriate form of blow — there's no point trying to whack a high flying mongbat with a low thrust!

Also, most of the creatures are pretty stupid and suffer from rushes of blood. If you face several monsters, try to get into a narrow corridor — the ones in the front will probably be injured by those behind.

There is also a suggestion that you can jump in combat (J or shift-J) and can also push enemies off cliffs or into lava flows. Not many creatures can swim, especially in fire, so manoeuvring them into the water or lava is an interesting tactic.

Finally (and not very Avatar-like), it does appear that when you attack from behind you do extra damage.

Use the shrines for promotion, concentrating on combat and magic skills.

The main inhabitants of level four are the Knights of the Order of the Crux. These are found in the southwest corner of the level and you should seek out their leader — Dorna Ironfist. Their order is steeped in chivalry and the eight virtues and membership is a prerequisite to progress. Several tests and quests will have to be completed to show your worthiness. It is worth speaking in length to each of the knights — most will tell you a combat-orientated mantra.

MORE MANTRAS

GAR — axe
RA — attack
ORA — unarmed
ROMM — traps
KOH — mace
FAHM — missile



- 1 — Lakshi scroll
- 2 — Lantern
- 3 — Dead rotworm
- 4 — Troll
- 5 — Rawstag (opens door to shrine)
- 6 — Shrine
- 7 — Silver ring
- 8 — Lakshi Longtooth
- 9 — AN and JUX stones, green potion
- 10 — Skull and bones
- 11 — Kyle, Doris
- 12 — Meredith
- 13 — Cecil
- 14 — Dorna Ironfist
- 15 — Derek
- 16 — Feznor
- 17 — Trisch
- 18 — Ree
- 19 — Maze contains many chambers — one is said to lead to a chamber once used by

- Knights. Lorne went to the homeland of the Trolls. To pass into the unseen, jump through the seen. Maze is locked with a key thought to be lost. The Knights of the North have a hidden counterpart. Bullfrog puzzle has a simple solution — but there's more than meets the eye.
- 20 — Bottles of port and ale.
- 21 — Biden
- 22 — Obsidian key, jewelled sword (after defeating the Chaos Knight), thirty-seven coins
- 23 — Knight's standard, twenty-three coins
- 24 — Chain gauntlets
- 25 — Goldeo goblet, red potion
- 26 — Locked chest
- 27 — Serviceable longsword, Fireball scroll
- 28 — Mail shirt

- 29 — Oradnar (fishing pole)
- 30 — Pouch (OUAS, IN and AN stones, diary of a seer)
- 31 — Oil, mushrooms, green potion
- 32 — Gold key lock
- 33 — Boulder
- 34 — Sethar Strongarm
- 35 — Grave of Sir Ingvar, golden plate
- A — Anvil
- B — Office of Troll Watching
- C — Treasurer
- D — Armourer
- E — First Officer
- F — Shrines
- G — Graves of Sir Elonir and Sir Avirill

AAM — picklock
MUL — sneak
AMO — sword

Derek is keen on jewellery, so a reward from level two will stand you in good stead — and reveal another talisman. Trisch will tell you of the taper, so it's back to Zak who may be in the dark. Level four also contains many puzzles. These include the bullfrog, the maze of silas and the door of levers. Make sure you speak to Feznor who will give you info on all of these.

The door of levers is a grave problem, if you get my drift! The maze of silas is really wall-banging, but the bullfrog is tricky. Be careful as you are only allowed a couple of turns before it jams. If this happens, use the wand to re-set. Most of these puzzles can be solved in an easier way later in the game.

Sethar can make you a useful item, but first you must whet his appetite. Lanugo the goblin has the correct formula

The puzzles above can only be accessed once the chaos knight has been attended to. this fight is finely balanced — dispose of the audience first to avoid distractions.

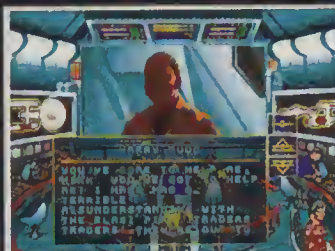
By the time you've finished level four, you will be tired and far more experienced. Time for bed — and the shrines.

... TO BE
CONTINUED

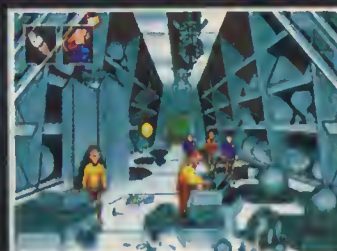
Space ... the final frontier. These are the voyages of the starship Enterprise, its continuing mission to explore strange new worlds, to seek out new life and new civilisations. To boldly go where no man has gone before.

ANOTHER FINE MESS

Captain's Log, Stardate 5011.6: Starfleet has received reports of increased Elasi activity in the Harlequin system. As the Enterprise is the nearest ship in the sector, we've been assigned to investigate. After our previous encounter on board the USS Masado, I can't say that I was looking forward to meeting the Elasi again. My fears were realised when we were attacked by two of their number upon entering the Harlequin system.



The Elasi appeared to be attacking a small trading craft when we interrupted them so we followed the trader's trail to the nearby Harrahan system to find out why. I now wish that I hadn't bothered as the trader has turned out to be none other than Harry Mudd. After checking the computer on his recent nefarious activities, Spock, Banes, Lt Buchert and myself are beaming over to his ship to find out what's going on. If Mudd's involved ...



Harry's story about Mirocle De-Grimers is a little hard to swallow, especially when the attachment of a single lens to one of the damned things turns it into a pretty powerful hand weapon. On a more serious note, Spock's initial observations are that this is a completely alien ship, with technology far in advance of our own. I've discovered a small golden sphere that appears to be some kind of computer interface.



The engine room to the south housed Mudd's dodgy Sav-A-Ship life-support device. If we don't find a way to repair it soon we may need to beam out of here before it explodes. It seems, however, that the Enterprise is having some difficulty with the Elasi again and has raised her shields. We are going to explore the northern half of the ship while Scotty is fighting the pirates. We'll have to hope we can finish them off before we all go up.

THE FEATHERED SERPENT

Captain's Log, Stardate 5097.3: Starfleet have had reports of a mass Klingan force mobilising in the Hrokkaur sector, apparently searching for a renegade criminal. Intelligence has picked up traces of a craft fleeing from Hrokkaur to the Digifal system, which just happens to be Federation space. The Enterprise has been ordered to find out what's going on before the Klingans invade our space and provoke another war.



We arrived at Digifal to be greeted with a Klingan Battle Cruiser ordering us to back off. I explained to Captain Toraz that he is in violation of treaty by being here and he agreed to let us handle the situation. After consulting the ship's computers on all the available information, the Enterprise has entered standard orbit and I am beaming down to the planet with Spock, Banes and Lt Stragey of security. We'd best be ready for anything down there.



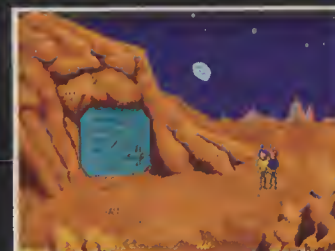
Immediately on materialising, we were greeted by a strange looking man in a white cloak. McCoy checked him out to find him almost human ... almost. I informed him that the Klingans were after him and he responded with delight, at least until I told him of their violence. He claims to be the ancient Aztec god Quetzecatl and refused to believe my accounts of his 'people' on earth, claiming that he is all for peace.



As if to punctuate the fact, he instantly transported us to a deep pit to learn the error of our ways. After a quick spat over vine manipulation, snake catching (thanks to a rock in front of its hole) and good baseball pitching, we managed to escape from the pit. Trekking back through the jungle, we were suddenly confronted by a follower of Quetzecatl, demanding we prove ourselves. I allowed the snake to bite me to prove our strength.

THAT OLD DEVIL MOON

Captain's Log, Stardate 5103.2: We have been sent to Alpha Proxima to observe the arrival of the Scythe asteroid in the area of Proxima III, a world currently under observation pending entry into the Federation. The history of Proxima, according to Mr Spock, is somewhat similar to the tales of the Greek gods of Earth. The computer was able to provide all sorts of fascinating reading material while we travel to the area.



The Sofs' and the Lucrs' fascination with base three and base four numbers may be important to understand these races. Entering orbit around the asteroid, I beamed down with Spock and McCoy and started investigating. No sooner had we arrived than Scotty informs us of a virus in the computers, disabling the transporters and warning its way through the rest of the systems. Taking a few rock samples we headed for a strange door.

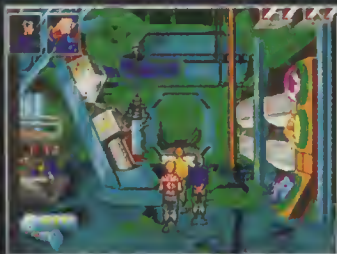


Spock revealed that to open the door we'll need to work out the correct combination. Since this is appears to be a Lucr construct and they are fascinated by base three and the number 99, we surmised that the code was 10200 (99 in base three). The door opened and in we went, only to be confronted by another door. Scotty has informed us that it will take at least three hours to fix the Enterprise. I'm not sure we have that much atmosphere on the planet.

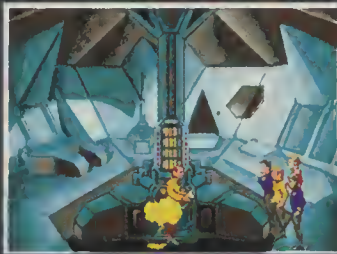


Applying his usual technical expertise to the cansales, Spock has unearthed a worrying fact. Apparently this 'moon' was used as a missile base by the Lucrs against the Sofs and it's due to launch another attack, unaware that the war is over. Normally we would just destroy the planet but as this moon is a major religious item and the prime directive states that we cannot interfere with a non-Federation planet, we'll have to find another way.

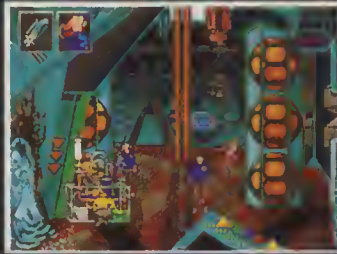
And these are the voyages of the starship QED, its continuing mission to bring solutions to the toughest of games. What follows are the final extracts from the log of Captain James T Kirk from the 25th Anniversary missions.



According to Spack, this ship's weapons system is extremely powerful and could be beamed aboard the Enterprise by Mr Scatt. To the north is the sick-bay, the bridge and a computer room. The main power base is down but Spack suggests using his and Bones's tricorders to access the computer. We also discovered a small repair tool that belongs to Mudd in the bridge area. I'd best hang on to it as it could fix the Sov-A-Ship.



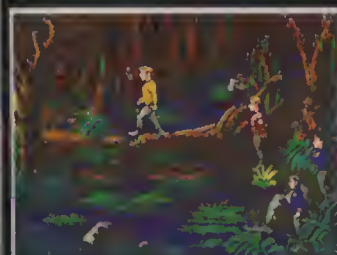
Spack has been searching through the alien's bridge and computer to find out about this new species. He's also managed to find a picture of them that he displayed on the screens. Making our way back to the sick bay, we discovered Harry going through the various chemicals. As if fate decreed it, he accidentally smashed a canister and had to be subdued by Spack's neck pinch and treated by Bones and the alien medical computers.



With Mudd out of the way, we felt it was best to get the Sov-A-Ship under control. The Daaver did the trick and has allowed us more time to explore the bridge area, now that we have power from the computer system. Spack managed to scan for the Enterprise and the ship's communicators picked up Mr Scatt who is ready to beam us back. Before we go, however, I think I'd best have a word with Horry. He almost cost us this ship.



Captain's Log, Supplemental: I think Harry Mudd learnt a valuable lesson about messing around with unknown technology. Before we left I convinced him to 'donate' his findings to the main university complexes in the Federation and cautioned him on the legalities of scavenging. He seemed to have learned his lesson, but just like the Elasi, I have a nagging fear that we've not seen the last of Harry Mudd.



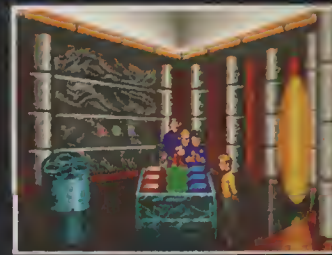
He gave us a ceremonial dagger and let us pass. We came to a lake where Bones's tricorder showed the presence of a living creature under the water. Using a poisonous plant growing next to the lake we warded the creature off and crossed the lag. In the next cavern, Spack's tricorder picked up readings of dilithium crystals and using the dagger we were able to retrieve a sample. The next cavern led us to Quetzecatl, who wanted to talk.



Basically, Quetzecatl wanted to become mortal, by undertaking a medical operation by Bones. If we could convince the Klingons he was no longer a threat, we could avoid this war. The only way to do that was to travel to the Klingon world of Hrokkaur and face their court. Naturally, the Klingons are very suspicious and the only way we were going to convince them was to undergo a series of trials, to prove our honour.



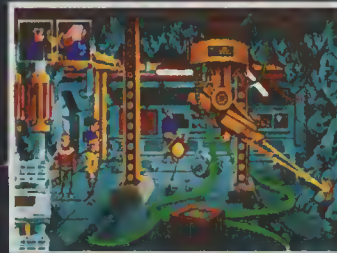
We started by facing some kind of electrical creature, blocking our way forward. Using my phaser to melt some rock, then coating a rod with the molten liquid, I created a makeshift energy absorber which drew the creature into it. Contacting the Enterprise, Uhura informed me that within the daar code was another code of unknown purpose. I ordered her to transmit both codes at the same time and we were teleported to a strange chamber.



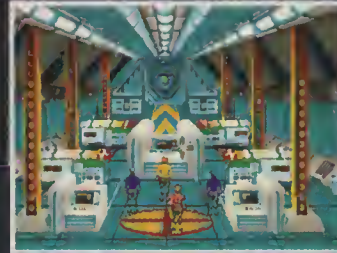
Within the chamber was a glowing sphere, several large gems and some kind of console. On the advice of Spack, I inserted three green gems. I then entered the yellow beam and related our mission to the strange entity that was present. This was a being of immense power as no sooner had I finished than Admiral Kenka was beamed in and sentenced to death. I intervened making a deal for the release of Quetzecatl. Naturally he agreed...



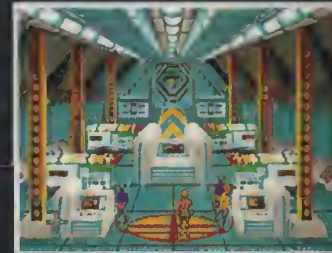
The inner daar opened when we entered the combination (122 - 17 in base three, Scythe being the seventeenth letter in the Lucr alphabet) and we were presented with two more daars, one needing a security card to open, the other leading to a workshop of sorts. Uhura informs us that they've found a cure to the virus, from the Klingons of all places, and are working on repairing the ship's systems. I just hope we can do the same here.



Since the locked door is the only other exit, I assume that the missiles and their launching mechanisms are kept behind it. Spack thinks that it might be possible to carve a security card out of the rock samples, using the laser drill. Taking the necessary readings from the lock mechanism, Spack has entered the correct settings and blasted a mould for the rocks to fit into. I've put the rocks in place and Spack has melted them into shape.



Also in this room was a box containing several long strips of cable. Taking them with us, we entered the main missile room and were quite taken aback by the amount of destruction available to the Lucrs here. The computers are all separate consoles but all do the same thing. Upon closer investigation, one of them appears to have a virus running through it, the same virus that attacked the ship. We must have picked it up during our scans.



If we could find some way of enabling the virus to infect both systems, Spack felt that it would cause the computers to fire the missiles harmlessly into space. Using the cables we linked the two systems together and Spack managed to enter the required numbers to mess up the Lucrs' plans. It's amazing what some people will do for what they believe in, although our own history wasn't exactly peaceful. Let's hope the future goes better...

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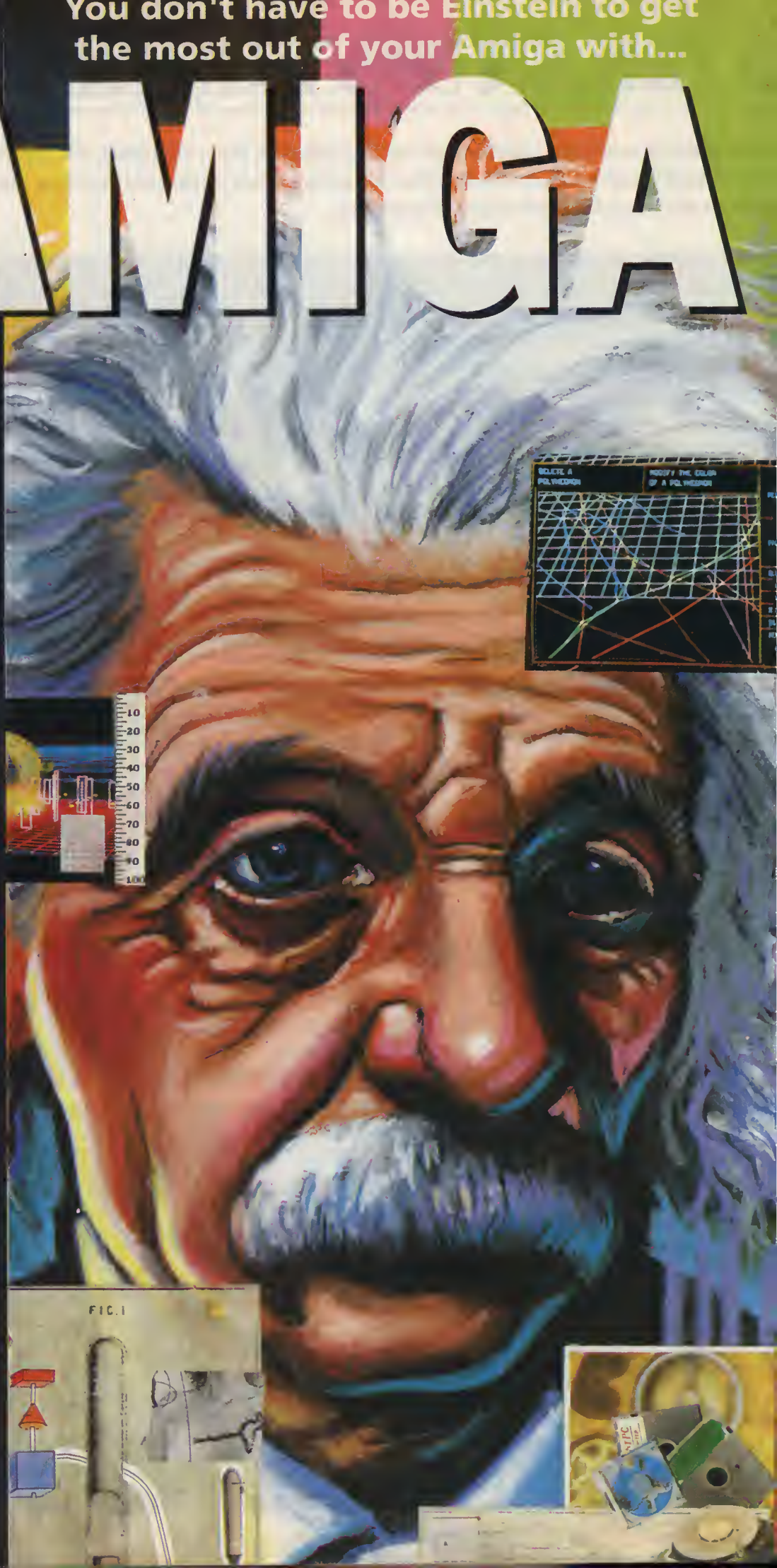
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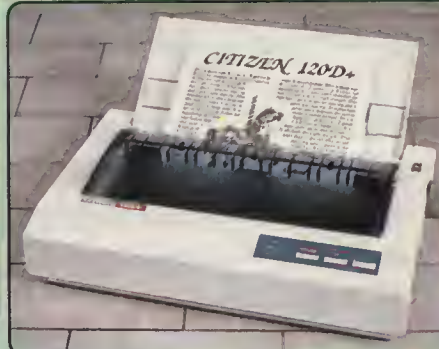
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- Colour Option Available
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What with the 1992 Olympics about to begin we've given you an opportunity to get the flavour of it all by sampling the diving event from Empire's International Sports Challenge. You'll also find a complete game, Jill of the Jungle, which we believe to be one of the very best shareware games to be released this year – we hope you agree!

INTERNATIONAL SPORTS CHALLENGE

Olympic fever is running high again as the countries of the world prepare for the 22nd Olympic Games. The whole experience will of course be thoroughly spoiled by petty political wrangles and athletes who are so full of themselves that they have forgotten the Olympics are supposed to be all about international cooperation and the spirit of achievement, not to mention corruption, drugs scandals and probably the weather. Still, you needn't let all that upset your summer, because Tyneside-based Harlequin has been hard at work creating International Sports Challenge for Empire. The complete game is a multi-event extravaganza, but, to give you a brief taste, you'll find a playable demo containing three of the diving events on the disk. (Sorry girls, you'll have to pretend to be a man for this demo, but see Jill of the Jungle below for some recompense). When the demo starts you must specify whether you want the EGA or VGA mode. The menu allows you to attempt each of the three dives individual-

ly or try them one after another as a medley. On the subsequent menus, only the dive that is highlighted can be selected. Make menu selections by using the cursor keys to move the indicator and pressing the space bar to select.

To start the dive, press the space-bar; the diver will walk to the edge of the board and begin the dive. While the dive is in progress, you must move the joystick left and right to make the outer ball on the circle in the upper right corner match as closely as possible the movements of the inner ball. Do not try and catch up with the inner ball if it gets ahead of you, just try to copy its movements exactly.

At the end of the round you are given your score and you have the opportunity to play the event again if you wish. You can see the dive demonstrated by selecting the demo from the top of the selection menu. If you do this the diver will execute the dive first before you attempt it. You can also elect to have practice dives by changing the number indicated on the main menu.

CONTROLS

Cursor up	Move menu pointer
Cursor Down	Move menu pointer
Cursor Left	Move diver control ball
Cursor Right	Move diver control ball
Space Bar	Select menu item/start dive

TECH SPEC



How to load the programs

Those who are experienced PC users should check the quick installation guide below. If you're unsure how to proceed, read through the step by step instructions in this panel.

Quick installation guide

Put the PC Review cover disk into your floppy disk drive and log on to it.

FRONT [Enter]

to start the menu and follow the on-screen prompts.

When the program(s) have installed, log on to the relevant directory, and type the following to start the programs.

International Sports Challenge:

DEMO [Enter]

CompuShow:
CSHOW

Easy Menu:

Please read the detailed installation instructions on page 90.

Jill of the Jungle:

Please read the detailed installation instructions on page 90.

Step by step instructions

Put your PC Review cover disk into your floppy disk drive.

Log on to that drive by typing

A: [Enter]

COMPUSHOW

CompuShow is a program for viewing graphics in a variety of formats. When the program is started the screen shows a sorted list of the disk files on the current disk drive and sub-directory. If you loaded CompuShow from a floppy disk, you can remove the disk once the program is running, in order to mount other floppy disks.

The cursor is positioned in an input area near the bottom of the screen. Use the up arrow cursor key (or your mouse) to move up into the file directory.

Move the highlight bar around the list of files using the mouse or cursor arrow keys, PgDn, PgUp, Home or End. (Click the mouse above the top line of file names to page up or below the bottom line of file names (outside the input area) to page down.)

With the highlight bar positioned at a graphic file, press the space bar (or click the left mouse button) to view the picture. If you don't know which files are graphics, just try each one in turn. CompuShow will tell you if a file isn't a graphic.

If the image is larger than the screen, you can pan around the image by moving the mouse or pressing the cursor arrow keys.

Press Esc (or click a mouse button) to return to the file directory and you're back at the file list ready to select another file. If you now press Esc again (or click the mouse in the input area), the cursor will return to the input area. Press Esc in the input area to exit CompuShow and return to DOS.

Of course, you may have graphics files on a different disk drive and/or in a different sub-directory (and it's quite possible that there are no graphics files listed on the current directory screen). There are several ways to select a different disk drive

and sub-directory:

a) Press F5, then C and a carriage return for a complete directory display, so that sub-directories appear on the screen (marked <DIR>). With the highlight bar at a sub-directory, press carriage return (or click the mouse) to move into the sub-directory.

b) Use Alt-A and Alt-B (hold down the Alt key and type a or b) to log in a new disk in floppy drive A: or B:.

c) With the cursor in the input area, type C: and press F2 to log to drive C: (or any other drive).

With these basic instructions you can switch to different disks and move around the sub-directories to select and display graphics images. Also remember that F1 displays a help screen. In addition to this standard 'pick a file and display' method, CompuShow also allows you to:

- tag a group of files for display one after another
- display one or more graphics from the command line
- display a graphic and return to DOS with the image on screen.

You can find out more about the way the program functions by reading the detailed documentation that was installed with the main program. Setup.doc describes how to configure the program for your system, select a suitable video driver and delete unnecessary files. Drivers.doc is a complete list of CompuShow video and printer drivers.

Changes.doc is a summary of the changes in this version. CSHOW.DOC is the complete, detailed

CompuShow User's Guide. Finally, Q&A.doc contains frequently asked questions, complete with answers! You can read these files by entering, for example, TYPE CSHOW.DOC | MORE, and pressing a key to see each page. Or you can print a file by setting up your printer and typing COPY CSHOW.DOC PRN. Substitute the name of the document you wish to read or print for Cshow.doc in the examples.

HELPLINE

If you still have problems then please phone our helpline number below before returning your disks:

DISK HELPLINE: (0443) 693233

The helpline operates between 10.30 am and 12.30 pm weekdays. If possible, please have your computer operating and your cover disk ready when you phone the helpline. If your phone is not near the computer then please note down as much information about the fault as you can and have pen and paper handy before you call.



if your floppy drive is drive b:, substitute b: for a: in the example above, eg, B: [Enter] to log on to drive B:
Type the following:

FRONT [Enter]

to start the cover disk menu program.

Use either a mouse or the cursor keys to select the program you wish to install. With a mouse, click on the bullet next to the appropriate program. With cursor keys, move the pointer to the bullet and press Enter.

Taking International Sports Challenge as an example, you should now see an on-screen message saying

The program will be decompacted to C:\SPORTS. Is this OK? (Y/N)

If this is OK, ie, you want to install International Sports Challenge to your hard disk C:, and you have no other directories called SPORTS, press Y and then Enter.

If you are installing to another disk, or you wish to give the directory a different name, simply press N [Enter], backspace over C:\SPORTS and retype your preferred destination, eg,

B:\DIVING [Enter]

The program should automatically install, finishing with the words All done!

To play the cover programs, log on to the correct drive and directory (if you did change the drive and directory names, don't forget where you put them!):

C: [Enter]
CD SPORTS [Enter]

will take you to the SPORTS directory on drive C:

Type the commands shown earlier in this column to start the programs you have installed.

EASY MENU

This program was designed as an easy to use menu driven system for anyone, no matter what the level of knowledge. It is easy for anyone that can use a text editor to create their own functional menu script without any real programming knowledge.

The menus are a quick way to move around directories and invoke the programs that you use. They are also extremely useful for those who do not understand the workings of DOS as no command line knowledge is required once the menu has been invoked.

To install the program you must first copy the files to a floppy disk, if you have not already done so, you cannot install it from a hard drive. Then log on to the correct drive and type INSTALL.

To run the program you simply type EZMENU in the current directory providing:

1. You have a path set up to the EZMENU.EXE file.
2. There is an EZ.MNU file in the current directory.

Once an option has been selected then the appropriate action is taken whether it is a change of directory, calling a submenu or invoking a program. If the script tries to change to a directory that has no EZ.MNU file then the following error will be displayed.

Error : No EZ.Mnu file found in directory

If this error message is displayed on program startup then the program will terminate on the next key press. Alternatively, if this message is displayed after selecting an option then pressing Esc will quit the program, but pressing any other key will return you to the previous menu from which the option was selected.

PC Review's cover disks are checked at each stage of production for all known viruses and duplicated under strict quality control. However, we can accept no responsibility for damage to either data or hardware caused by use of our cover disks. We make every effort to ensure that cover disks contents are as advertised. If circumstances should dictate that we are unable to supply the stated programs, we will endeavour to provide alternative software. However, PC Review, its distributors and retailers will not be held responsible for any unnotified change to the contents of the disk.

Creating your own script

There are very few rules to remember when creating your own menu script and these are detailed below.

1. ' This denotes a menu title is to follow and this must be placed on the first line of the script if you require a title.
2. Ordinary text placed on the start of any line is denoted as being a menu option, and is displayed as such by the program.
3. Any text which is not at the start of the line is the action that will be performed when the preceding option is selected.
4. * This denotes a comment line and is ignored by the program.
5. \$ This character tells the program to invoke a submenu with the name specified. For example, if the line read \$SubMenu then EZMenu would scan the current directory for a file called \$SUBMENU.MNU. If this file is found, then control is sent to this file instead of the standard EZ.MNU file. To return control back to the EZ.MNU file then the script should contain the line \$EZ. In this case, the \$ is discarded and control is returned back to the file EZ.MNU.
- Note that there is no limit to the amount of menus that may be nested. Submenus were added for use in the current directory, if you require a new menu in a different directory then you may just call it EZ.MNU and then set up an option in your main menu to change to the new directory.
- This will have the effect of closing the main menu and opening the menu in the directory you have just moved to. Control may be passed back in a similar way just by changing directories again.
6. EzMenu has been designed to interpret environment variables, such as the COMSPEC on your computer. These variables may be accessed in the same way as you would in DOS. You simply need to enclose the variable within two % characters. For example if the variable EZMENU was equal to C:\EZMENU then a line in the form of CD %EZMENU% may be used. Note that environment variables may be viewed by typing SET.
7. QUIT is a controlled way of exiting from the menu program.

There is a sample of a menu script and a submenu script called EZ.MNU and \$DIRS.MNU respectively, supplied with the program. These can be viewed by typing them or by selecting the view or print option after running EZMenu from the installed directory.

Jill of the Jungle



Jill of the Jungle is an arcade-style adventure game from Epic Megagames with 256-colour VGA graphics, great sound effects, and a Sound Blaster-compatible musical sound track. This Immense game world, Volume I in the Jill series, challenges both your mind and your reflexes!

Jill of the Jungle needs to be installed on your hard disk. You will require at least one megabyte of

available disk space. Copy the installed files to a new directory on your hard disk (if they are not already there, and type:

\$JILL

This will unpack the \$JILL.EXE file into the directory on your hard drive. To run jill at any time, you should now log on to the correct directory and type:

JILLI

Complete Instructions for playing the game can be displayed once the program has started.



Captain Eric

(3.5" Disks only)

Captain Eric is a fun, 12 level maze game. Our hero, Captain Eric, has landed himself in a bit of a pickle at alien HQ. He must negotiate 12 perilous levels before he can make good his escape. To get rid of the zombies, you can shoot or lure them into the traps. However, the more intelligent aliens tend to avoid these on higher levels. Alternatively, you may pick up a freezer, and then eat them (quickly) while they are frozen.

Collect ammo on the way, and use bullets sparingly. Use the cursor/number keys around 5 on the keypad to move, making sure that Num Lock is switched off first), or hold Shift down and hit 2,4,6, or 8 to fire the gun. You may need to shoot traps to progress in mazes. Hide behind traps and hit Space to lure aliens to their doom, thus saving bullets!

If you hit F2 for Easy mode game, you will find there are fewer, slower aliens and other unpleasant things. Note that, while you can move diagonally, you can't shoot diagonally. This makes the game more challenging!

Your objective is to collect all the heart-shaped keys on the screen; there is sometimes more than one!

There are two types of trap; the larger ones can absorb two aliens, while smaller ones can only take one, and then disappear. Some screens have mazes made up of invisible walls. These are revealed when you are within two squares distance.

Note that every time you move, the aliens move as well. Bear this in mind when running away. The aliens also move after each shot you fire, or if you stand still for more than a certain amount of time. On some screens, traps rain down after each move, so don't hang around!

On later screens you will see an alien generator, shaped like a house. This regenerates all the aliens you shoot, so you are advised to shoot this if you can.

Note that you can shoot all objects except walls and edges. You will sometimes need to shoot traps in your way to get through mazes, so it is advisable to save bullets for occasions like these; destroy aliens with traps and freezers when possible. Be careful not to shoot the heart-shaped keys, they are your way out!

FAULTY DISK?

PC Review's cover disks are checked and validated, but if you have reason to believe yours is faulty, pop the disk(s) in a jiffy bag with an self-addressed envelope and postage to the value of 28p (55p from overseas) for return of the new disk, and the form below (filled in) and send the package to the following address:

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Name.....

Address.....

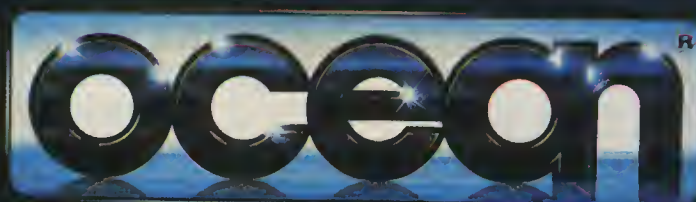
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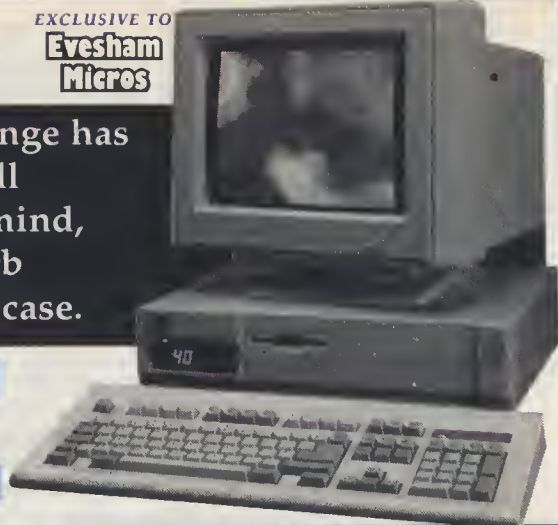
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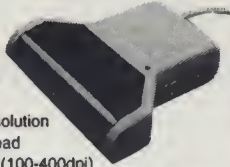
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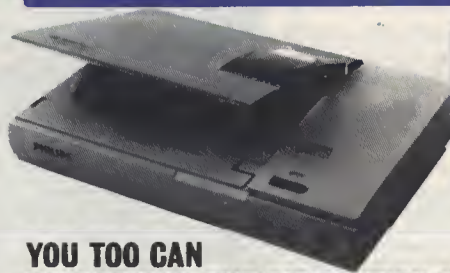
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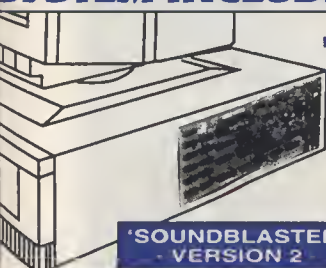
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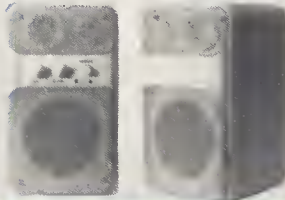
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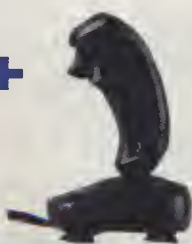
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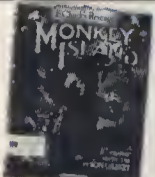
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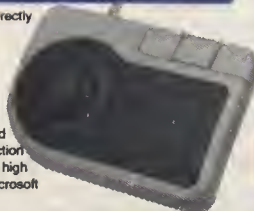
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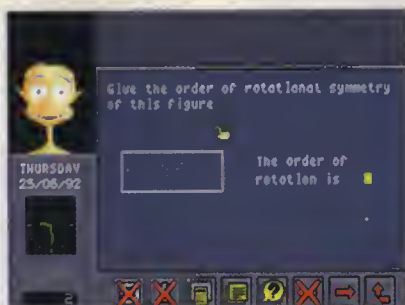
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1. ADI- -
French goodbye?
2. -ADI- - - - -
Being exposed to this could be deadly...
3. - - - - -ADI- -
What you might do with Marmite or muck!
4. - - - - -ADI-
Coming in fits and starts.
5. -ADI- - - - -
Like this puzzle? Or getting pleasure from pain.

Rules

The winner of the Amstrad Family Games Pack will be the first correct entry drawn at random after the closing date.

The next 20 entries drawn will each win a copy of an ADI educational package of their choice.

No entries received after the closing date will be considered.

Only ONE entry per person, please. Multiple entries will be disqualified.

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WORD-LY WISE

I think the words are:

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Indiana Jones, the adventure game reviewed – has Lucasfilm surpassed itself ... and Dynamix's follow-up to Red Baron, Aces of the Pacific, is revealed in all its glory ... the second part of our music series delves further into MIDI and shows you how to set up a music system in practice ... that promised Harrier preview? Well, we're keeping our fingers crossed.

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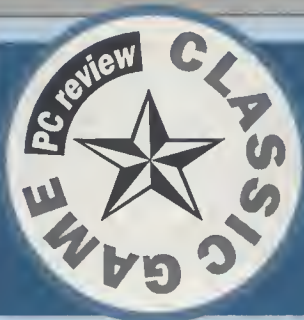


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CLASSIC GAME GUIDE

Classic action, classic thrills, classic games – brought to you exclusively in PC Review's new Classic Games Guide!

This month's Classic Games Guide has been updated to take account of some of the best games to be released more recently, and price and label changes for the older games. You'll see that some titles have "now delisted" written against the price. This means that the publisher in question is no longer (or not at the moment) producing copies of the game,

but you may still be able to obtain it in shops or through mail order suppliers. This is particularly true of titles published under the Cinemaware, Image Works or Mirror Image label, which is in a state of limbo at the moment following the demise of the Maxwell-owned publisher. Temporarily, we hope.

Over the past few years there has been a massive increase in the number of software houses developing games for the PC in this country *and* the amount of

products coming from the United States. The choice facing the buyer is truly impressive.

Each month we will feature top quality PC games, covering all aspects of computer entertainment, from action to brain teasers, fantasy to sport, and flight simulations to strategy. And each month we will also take an in-depth look at a particular classic game.

This section of the magazine is not just a nostalgia trip, however. Classic games are being created all the time and they too will find a place here. So if you are a keen gamer or newcomer to the excitement of computer entertainment, there will always be something new for you to read each month.

The accompanying Dealer Directory lists nearly 40 of the country's top independent computer shops and, in conjunction with Centresoft, one of the UK's leading distributors of software, they have agreed to feature the games listed in this guide.

When you visit, look out for the PC Review Recommended logo – the guarantee of quality games and quality service.

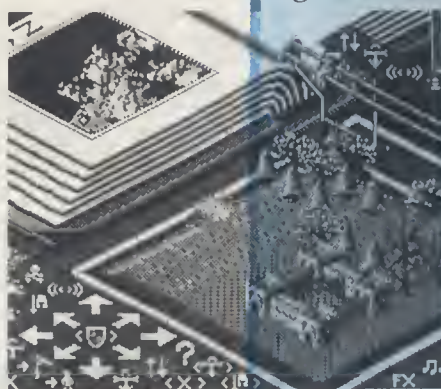
The action starts now ...

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CLASSIC GAME OF THE MONTH

POPULOUS



We have done everything humanly possible to check the information in this guide. But prices do change, distribution switches from one company to

another, even brand names can alter. While we will update the information regularly to take account of this, we cannot be held responsible for errors.

Anyone – suppliers, publishers or readers – who knows of any products suitable for inclusion, but which have been mysteriously omitted, can write in

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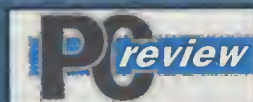
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CLASSIC GAME OF THE MONTH

Populous

Good simulations have become almost passé these days, there being so many of them to choose from. Civilization, Realms, and Bullfrog's own Powermonger are three recent examples and Utopia and Mega-lo-Mania are shortly to make an appearance. Joining them will be Bullfrog's eagerly awaited sequel, Populous 2, so now seems as good a time as ever to reappraise the original god game.

Populous, along with Maxis' superb Sim City, came like a breath of fresh air into the computer games arena. Back in 1989 even the PC was suffering from release after release of unoriginal dross, so it came as no surprise when Bullfrog's now classic game captured the imagination of journalists and games players alike.

The player is given a god-like role as the guardian of a race of expansionist warlike people. The ultimate objective is to make your own population grow and conquer an opposing civilisation. You achieve this by creating a suitable environment for your little people to live on. In this instance, a suitable environment is as much flat land as you can possibly come up with. The land has to be flat because only then will your people build dwellings of various sizes and settle down to the business of ... er ... producing more little people.

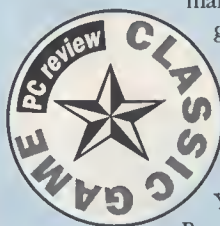
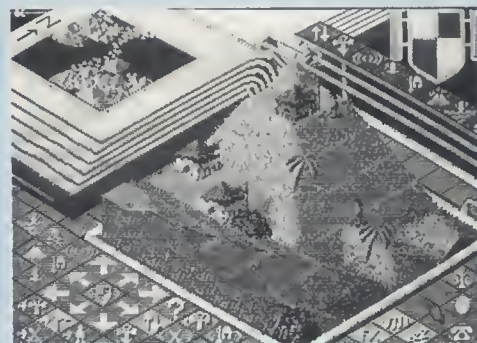
Making flat land is where Bullfrog's ground-breaking (pardon the pun) technique of landscaping comes in. The development team devised a system whereby a three-dimensional angular landscape can be manipulated by clicking the mouse on particular points to raise or lower the level of the land. By doing this the player can level the natural contours and give his people the opportunity to build and expand. There is a cost for this power though; your little people generate mana which gets used up as you raise and lower land. Fortunately the more people there are on your side, the more mana they generate.

So far, so good. But surely there must be more to the game than raising and lowering land. There is indeed. When your population grows sufficiently large to generate a lot of mana it becomes possible for you to indulge in a few more obviously god-like acts. These include creating volcanos (which in this case are inactive, but become a difficult obstacle to remove), laying down swamps which swallow up unwary members of the opposing population, causing earthquakes, and, most deadly of all, generating a flood that would have impressed Noah.

One of the more interesting powers is the creation of a knight. Your people's lives revolve around an object of devotion called the Papal Magnet. This can be placed to direct your people towards a particular area of the land. It can also be used to create a leader who can in turn be transformed into a knight. Knights can become very strong, and should be, because their job is to wander off and ransack the dwellings of the opposition, fighting and slaying all that they meet.

The final power is the devastating Armageddon. This requires an enormous amount of mana and causes each side to draw together to create two superbeings who battle it out for ultimate victory.

Populous can be played against a range of computer opponents with increasing abilities, but the game becomes even more interesting if you link two machines together via a serial link or modem and play against another person. If you were planning to buy Populous 2 and you don't have Populous, it will still be worth buying the first game, which is a good introduction to the concept behind both games.



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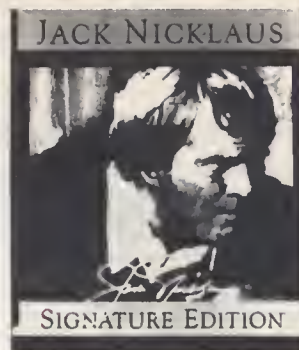
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ACTION

GOLDEN AXE **Tronix, £9.99**

An unusually successful conversion (in PC terms) of a traditional hack and slash coin-op – Golden Axe offers a choice of male and female heroes, but it's still all just straightforward macho bloodletting really.

PRINCE OF PERSIA **Domark, £30.64**

The amazing animated characters are only eclipsed by the depth of the play. An extremely durable game, number four in our Readers' Top 50, and a genuine contender for the greatest action game ever.

IVAN IRON MAN STEWART'S SUPER OFF-ROAD RACER **Tronix, £9.99**

It's high-speed, four-wheel-driven action all the way in yet another successful Virgin coin-op conversion. More multi-player fun than you can shake a gearstick at.

SPEEDBALL

Mirror Image, £9.99 (now delisted)

Hectic and brutal futuristic sporting action from the Bitmap Brothers, with pinball, basketball and martial arts rolled into one great sucker punch. Only surpassed by ...

MUDS **Rainbow Arts, £24.99**

A peculiar 'future sport', where two teams of astonishingly ugly monsters try to throw an SFA (Small Furry Animal) into a basket. A strong blend of sick humour, action and strategy. Highly entertaining in a strange sort of way.

VIRUS

Mirror Image, £9.99 (now delisted)

A still-stunning 3D shoot 'em up (despite its advancing years), which rewards the time spent in mastering the controls with exhilarating and satisfying action.

RICK DANGEROUS 2 **Kixx, £9.99**

As is this laugh-a-minute sequel, where the pint-sized hero once again has to negotiate his way through level after level of less than serious opposition. Pure

platform-based arcade adventure over four levels packed with complex and testing puzzles. A hilarious masterpiece.

SPEEDBALL 2

(available on Bitmap Brothers' Vol 1 compilation at £30.99)

You guessed it! A worthy sequel to the impressive original, featuring a larger play area, new rules, harder and faster action and a whole new management structure. The updated pitch allows for more violent plays plays. It appeals to sports fans as well as play tacticians.

XENON 2

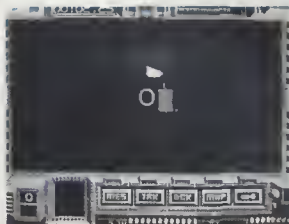
Mirror Image, £9.99 (now delisted)

Still the ultimate in straightforward shoot 'em ups, (above) featuring almost unlimited ship upgrades and a real difficulty curve. The

INTERPHASE

Mirror Image, £9.99 (now delisted)

A graphically impressive 'cyberpunk' 3D action adventure set inside a 'Big Brother' computer. Unusual and playable in equal parts.



SIMULATION (FLIGHT)

CHUCK YEAGER'S AIR COMBAT

Electronic Arts, £34.99

Electronic Arts makes a real bid for MicroProse's 'king of the sim' title with this multi-plane flight and fight extravaganza, played out above three wars and scenarios and named after the first man to fly faster than the speed of sound.

F-29 RETALIATOR **Ocean, £34.99**

An impressive, if slightly simplistic, simulation debut from the movie tie-in specialist. Good speed, multiple missions and a choice of two experimental craft make this a good choice for those who value instant action over accuracy.

It also includes an option to play head-to-head with

another human player via a modem. With the possible exception of Jetfighter, this has the easiest controls on any flight simulator. It's pure fun from the moment you take off.

F117A STEALTH FIGHTER

MicroProse, £39.99

Nothing less than the state of the art in both subject matter and programming technology, F117A features multiple radar-invisible missions over five theatres of war. Seeing is believing – an absolute must for serious flight fans. Apparently this simulation caused quite a stir in military circles when it came out because of its accuracy. There are plenty of theatres of war in which to fly the craft, including Central Europe, the Middle East, Libya, Korea and

Northern Cape, which vary in complexity and difficulty.

FALCON 3.0

Spectrum HoloByte, £49.99

Reviewed in PC Review Issue 4, Falcon 3.0 offers a strong action-based complement to MicroProse's F117A (see above). Beautifully presented, this simulation features head-to-head combat at the controls of the USAF's pride and joy, the F-16 Fighting Falcon. As good as they come. **Rated 9**

GUNSHIP 2000

MicroProse, £39.99

A nice break from the usual fixed-wing action, Gunship 2000 is a strong progression from MicroProse's original (and highly popular) chopper simulation, with a strong

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SIMULATION (FLIGHT)

storyline built in. Highly recommended.

FLIGHT SIMULATOR v4.0

Microsoft, £45.00
An all-out 'simulator' as opposed to a 'simulation', version four offers precious little combat, but does offer the most realistic recreation of real flight that's possible to get from any home computer. The big Daddy of PC flight sims and a real learning experience.

KNIGHTS OF THE SKY

MicroProse, £40.86
Chocks away for a historical joyride over the trenches of World War I in France. What it inevitably lacks in speed, Knights of the Sky makes up for with tense and gripping dogfight action. A nice break from the usual array of F-birds.

LHX ATTACK CHOPPER

Electronic Arts, £39.99
Although it's now been superseded by MicroProse's Gunship 2000, LHX Attack Chopper still offers a mix of strong action, unusual gameplay (with unusual experimental aircraft) and a structure which works well enough for experts and amateurs alike. Control is simple yet comprehensive. It contains a wealth of gameplay options and three scenarios – set in Libya, Vietnam and Europe.

MiG-29 SUPER FULCRUM

Domark, £44.99
The sudden and unexpected end to the cold war allowed Western developers, game designers and programmers to check out and recreate a number of Soviet aircraft, the best result of which was this game, reviewed in Issue 2. In keeping with these changes, the aim of this game is to maintain the new world order. As a member of a UN peace-keeping force you are sent to free an unnamed area of South America which has come under rebel domination. Your goal is to knock out their headquarters. No easy task as the rebels themselves possess an impressive array of weaponry. Aircraft buffs will

undoubtedly enjoy flying this less technology-heavy plane. **Rated 7**

RED BARON

Dynamix, £39.99
It really needs a powerful PC to operate to its optimum ability, but once this is taken care of this is one of the most accurate and option-heavy simulations available. The most highly rated flight sim in our Readers' Top 50.

JETFIGHTER II

Velocity, £39.99
Concentrating on easily-accessible 'arcade-style' action rather than 'true' simulation, Jetfighter II offers four aircraft, multiple enemies and 100 missions. Neat, polished, accessible and lavishly presented.

SECRET WEAPONS OF THE LUFTWAFFE

Lucasfilm, £40.99
Lucasfilm is a company which specialises in producing top-notch games in two distinct areas: animated graphic adventures (The Secret Of Monkey Island etc.) and historical flight sims, the best of which is this beauty, first reviewed in Issue 1. The premise of the game is what if the jet and rocket-powered weapons the Germans were working on in the dying days of the war came into general use and their effect on the outcome of the war. Extra missions disks are now available. **Rated 6**



SIMULATION (DRIVING)

4D SPORTS DRIVING

Mindscape, £30.99
A hybrid of Domark's Hard Drivin' and Accolade's Test Drive games (more later), developer DSI's 3D racer is a one-on-one against an equally well equipped opponent. As an added bonus, comes complete with a course designer.

BILL ELLIOT'S NASCAR CHALLENGE

Konami, £35.99
The trouble with North American Sports Car racing is that it all takes place on a circular course, which limits the game's variety. That aside, this is a good rendition of one

of the fastest four-wheel activities there is. The game includes a host of options. You can choose cars, tracks, type of race – qualifying, apprentice or main event.

INDIANAPOLIS 500

Electronic Arts, £29.99
Among the greatest simulations of any type available for the PC. You race against 32 other drivers in your bid for glory as the simulation takes you from initial practice, warm-up laps, qualifying heats and the big race itself.

Gasps in amazement at the realism ... then do it all over again using one of the spectacular replay options. Unsurpassed.

HARD DRIVIN' 2 – DRIVE HARDER

Domark, £30.64
Not so much a sequel, as a second attempt at converting a difficult coin-op, with both conventional and stunt courses – and a good thing too as this is far better than the original. Much more playable and now a real challenge.

MARIO ANDRETTI'S RACING CHALLENGE

Electronic Arts, £29.99
Putting you at the wheel of everything from an F1 thunderbolt to a dirt-track buggy, MARC is as much fun as it is well executed. Only for users with faster processors though.

TEAM SUZUKI

Gremlin, £29.99

You get the chance to ride three classes of motobikes, a 125cc with six speed automatic gearbox, and 250cc and 500 cc bikes both with six speed manual gearboxes. The game features a TV camera option so you can see yourself race. Team Suzuki is difficult to master but well worth the trouble – especially for bike fans. Reviewed in Issue 1. Rated 7



TEST DRIVE III - THE PASSION

Accolade, £30.64

The 'passion' in the title presumably refers to the way that owners feel about the luxury cars featured here including a top of the range Lambourghini.

Apart from that, it's a standard 3D driving sim with a few nice bells and whistles thrown in for good measure. Last of a series featuring gorgeous cars and various courses to drive them on.

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SIMULATION (OTHER)

SILENT SERVICE 2

MicroProse, £35.75

Historically and technically accurate (right down to the profusion of unreliable torpedoes), SS2 takes some mastering but it's worth every minute. Some of the combat may seem over simple but it does provide an engrossing tactical experience of being an American WWII commander in the Pacific Ocean. It's got atmosphere in depth.

DAS BOOT

Three-Sixty, £35.99

An unusually coherent and playable mix of action and strategy, this U-boat sim may not be as comprehensive as Silent Service 2, but it's a sight more accessible.

There are no huge manuals to read and you can get straight down to the action with training missions. These allow you to quickly get to grips with your submarine and get some quick battle experience. Most combat elements are included such as

torpedo runs and anti-aircraft gunnery

TEAM YANKEE Empire, £35.75

Based on Harold Coyles' novel, this is a similar game to MicroProse's M1 Tank Platoon, and a little more complex strategically. This is mainly down to having to control four platoons simultaneously.

Team Yankee is also distinguished by the use of bitmapped graphics for the 3D rather than filled polygons. This helps to give the game a more absorbing atmosphere than many other similar simulations.

M1 TANK PLATOON MicroProse, £40.86

A good tank simulation, made better by the fact that (as the name suggests), you take charge of a whole group of the metal beasts. There is a choice of engagements ranging between easy and hard, with optional enemy capabilities, from second line troops to the

very best. Well structured and engrossing.

RAILROAD TYCOON MicroProse, £35.75

A completely unique game – take control of a fledgling railway in the heyday of steam and use your business acumen to take it across an entire continent – wiping out, or buying up, the opposition on the way. This forerunner of the superb strategy game Civilization is definitely not to be missed.

SHUTTLE

Virgin, £49.99

Reviewed in Issue 5, this comprehensive space flight simulator is based on NASA's space missions up to the ill-fated Challenger in 1986. Incredibly detailed and will need concentrated hard work before you get into it and become proficient, but it's worth it – the authenticity is second to none.

Rated 8

PC Review Recommended

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STRATEGY WAR

COMMAND HQ

MicroProse, £34.99

Similar in some ways to the popular board game Diplomacy, Command HQ puts the player in charge of everything the West's got in any one of three historical situations and one futuristic scenario set in 2023. The scenarios increase in complexity as the date progresses. For instance, you can start out with infantry, cruisers and subs in the early scenarios and end up with nuclear weapons, satellites and other high tech equipment in

the later ones. Economics also plays a key role in the success of your war campaigns.

SUPREMACY Virgin, £34.99

Two huge civilisations battle it out for a single star system. Attack planets and then exploit them for resources vital to the war effort.

Slick graphics and a more than user-friendly interface turn what's essentially a political power struggle into a hugely enjoyable mental workout – a most rewarding evening's entertainment.

HARPOON CHALLENGER PACK

Three-Sixty, £49.99

A good value package which comprises the highly-acclaimed naval simulator, plus its North Atlantic Convoy BattleSet – a must for serious naval strategists.

UMS II

Rainbird, £40.86

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FANTASY RPG

BUCK ROGERS SSI, £35.75

An unusual, highly successful, computer appearance for one of the cinema's early heroes. A conversion of a TSR board game, this has all the usual SSI hallmarks: strong presentation, atmosphere and depth. It uses a variant of the AD&D computer games control system.

BARD'S TALE 2 Star Performers, £9.99 (now delisted)

The second – and arguably the most enjoyable – of the Bard's Tale series is one of the best of the 'old-style' (non-arcade) RPGs. Soon to be bundled with the other two in the series.

CORPORATION Core Design, £34.99

Very much in the '3D arcade' vein, Corporation achieves something which most computer games can only dream of – it creates and maintains a wholly realistic environment. It's a futuristic space opera in the confines of an overrun conglomerate. You must lead an elite team, equipped with stunning high-tech gear, enter the building and find out what is going on.

ELVIRA, MISTRESS OF THE DARK Accolade, £29.99

Although it's not exactly the type of game that you might expect from America's up-front queen of the B-movie (in other

words, it's a tenuous licence tie-in), Elvira remains an impressive (if slightly shallow) adventure, nonetheless.

MARTIAN DREAMS Origin, £36.99

Origin's second adventure outside of the acclaimed Ultima stable is an historic sci-fi jaunt in the style of H.G. Wells. Flawed, but enjoyable.

TUNNELS & TROLLS New World, £30.99 (now delisted)

Once again based on a popular board-based RPG, T&T doesn't have a lot to offer in the presentation department, but makes up ground with a well structured

plot. Combat can be automatic or manual and can even be humorous – such as pushing enemies away. Perhaps a little dated.

WASTELAND Electronic Arts, £24.99 (now delisted)

Not notable for its up-to-date interface, Wasteland is however worth checking out for its unusual scenario – a post-holocaust nightmare replaces the usual dungeon-based stuff.

THE SAVAGE EMPIRE Origin, £35.99

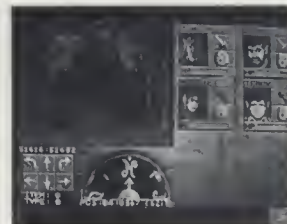
The one that came before Martian Dreams, Savage Empire borrows from the plot

EYE OF THE BEHOLDER

SSI, £25.99

Conceived and executed in the style of the classic *Dungeon Master*, *Eye of the Beholder* is exciting and challenging in equal measure. It's one of the highly-successful *Advanced Dungeons and Dragons* games based on the TSR role-playing tabletop game. First you must choose your party of adventurers, their race (human, dwarf, elf etc) attributes (strength, intelligence) and a whole host of other details. The adventurer's view is of a 3D dungeon and all the controls are mouse-

driven. SSI has managed to maintain the feel and atmosphere of the original game while making the AD&D experience available to a lot more people.



BRAIN TEASERS

LOGICAL

Rainbow Arts, £19.99

Nicely paced and colourful arcade-based teaser which may just fail to provide any long-term interest.

E.MOTION US Gold, £35.00

An infuriatingly compulsive arcade teaser that's as hard to describe as it is to put down. It involves matching coloured balls together causing them to disintegrate. When they have all gone you move to another level – of which there are 50. Only approach it if you've got a lot of time on your hands. It was – and still is – an wholly original game.

SARAKON

Leisure Genius, £19.99

Similar to Shanghai, and also based on Mah Jongg, Sarakon stands head and shoulders above most of its contemporaries – in terms of difficulty at least. A 16x16 squared grid forms the basis, Square tablets each with a variety of symbols are placed randomly on the grid.

The idea – as with many card games – is to combine and discard pairs of tablets until the grid is cleared. However, tactical play adds complexity. The first level of play is called 'Stupid' and that's how you'll feel when you fail to complete it. Not for the faint of heart.

THE SENTINEL

Firebird (now delisted)

Worth scouring the bargain bins for, Geoff Crammond's masterpiece is a rare breed – a strategy game loosely comparable to chess which can only exist inside a computer.

Easily the most atmospheric game of all time.

SPOT Leisure Genius, £24.99

Easily confused with the board game Othello, this is actually an original game of its own – and a rather good one too. The original game is now quite old, but was recently revamped and relaunched.

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BRAIN TEASERS

CHESSMASTER 3000

Software Toolworks,
£25.99

Computer chess is computer chess – right? Well, yes ... but this one (reviewed in Issue 4) takes the pride of place through its presentation and user friendliness.

Rated 9

VAXINE

US Gold, £25.99 (now delisted)

A sort of follow-up to E.Motion, this adds an extra dimension – well, in graphic terms at least. You roam as an abstract representation of the body shooting rogue virus cells. The action ranges over 99 levels with faster and meaner germs being introduced all the time. A new age pastime for the modern puzzle addict.

WELLTRIS

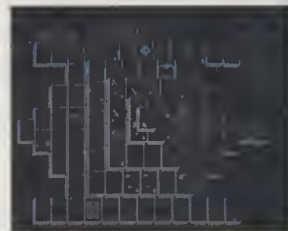
Infogrames, £30.64

From the same former Soviet scientists who brought you Tetris comes this 3D variation. The object is still to manipulate falling shapes, but the 3D aspects means the pieces appear to fall from above. It's good enough but how can you improve on perfection?

SHANGHAI II

Activision, £35.99

A test of memory and skill using the Mah Jongg card set, this is now available in numerous PD incarnations, although none as polished as this 'official' version (reviewed in Issue 1).
Rated 7



PIPEMANIA Empire, £25.53

Second only to the great Tetris as an invisible hour eater, this tale of twisting pipes and water will provide a challenge to even the hardest gamer.

KLAX

Respray, £7.99

An unusual block-based game which uses colour coding rather than shapes to generate its puzzles. Not as addictive as Tetris, but a nice short-term diversion.

LOOPZ

Audiogenic, £25.53

Unusually compulsive puzzler which adds a new twist to the art of shape manipulation. Hard to find, but worth keeping an eye out for.

NIGHT SHIFT

Lucasfilm, £30.99 (now delisted)

More of an arcade game than a pure puzzler, this does however have enough teasers incorporated to keep most gamers happy. Nicely humorous too.

TETRIS

Infogrames, £24.99

The greatest puzzle/dexterity game of all time. This Soviet sensation involves moving different shaped blocks to fit them together. Everytime a horizontal line is completed it disappears. The more lines completed, the more points you collect. Watch out for the original Mirrorsoft version, which is still the best around. A classic timeless game.

SPORT

4D SPORTS BOXING

Mindscape, £30.99

They don't look very much like boxers, but the strange polygon-based pugilists featured here certainly move like them. The game features

multi-views of the fights and also allows you to train and develop your fighters. Control of the fighters is also comprehensive, allowing you to walk towards an opponent, back off, circle left and right

and punch. The game is most fun if played in company.

BUDOKAN

Star Performers, £10.99

Electronic Arts' multiple event martial arts challenge is still the best game of its type available. Players train in four forms of combat: karate, kendo, nunchaku and the bo staff. During fights you must keep an eye on stamina and ki levels as these determine your state of health. Excellent sound and graphics and an unusual level of depth and excitement.

HARDBALL 2

Accolade, £25.53 (now delisted)

The definitive rendition of America's favourite sport available for your computer.

LINKS

Access, £40.99

A graphically impressive and option-filled variation on the age-old theme of computer

TV SPORTS BASKETBALL

Cinemaware, £30.64 (now delisted)

Unlike most previous attempts at producing a realistic computer basketball simulation, this game doesn't try to fit in the whole court at once – and is greatly enhanced because of this. Essentially you control one on-screen player at a time, the rest of the

players behave according to chosen tactics. Action ranges from pure arcade friendly game to hard-fought league matches. Competitive and playable.



golf. Be warned though, it's only for those of you with powerful machines.

PGA TOUR GOLF

Electronic Arts (available as PGA Plus with extra courses pack, £34.99)

Overall, this has to be the best golf game currently available on any computer. It may not have Links' looks or options, but it makes up for this in terms of sheer playability.

POWERBOAT USA

Accolade, £30.99 (now delisted)

A deceptively playable simulation of a sport which most of us would never even think about taking part in. Ignore the poor presentation –

this could become a favourite.

PRO TENNIS TOUR 2

Hit Squad, £9.99 (budget release imminent)

Multiple options are available, it looks good, it plays well – what more could you want? Choices include singles and doubles matches and type of court surface. There's even an option to play two on one. Reviewed in Issue 2, this is a definite ace.

Rated 8

SKI OR DIE

Star Performers, £10.99

A multi-event affair which takes a lighthearted view of Fergie's favourite winter pastime. There are five sub-games: snowball blast,

downhill blitz, acro aerials, snowboard halfpipe and the intertube thrash. Points are scored for being the fastest or being able to leap the furthest. Easy to get into and most enjoyable to boot.

TV SPORTS FOOTBALL

Mirror Image, £9.99 (now delisted)

This is, of course, American football rather than soccer. It combines strategy plays with fast arcade action. No longer the state of the art in terms of programming, but still a comprehensive and enjoyable rendition of the sport. Made more accessible than most by the usual Cinemaware TV presentation.

ADVENTURE

HEART OF CHINA

Dynamix, £39.99

Another attempt at producing an interactive movie, Heart of China is notable for its arcade subsections and – more importantly – its beautiful digitised graphics.

Set in the 1920s in Hong Kong, the basic plot involves the rescue of a nurse who has been kidnapped by a ruthless tyrant. The point and click game control interface works smooth, removing the need for any typing. This evocative action adventure is a must for VGA users.

LEISURE SUIT LARRY V

Sierra, £39.99

The other side of Sierra (contrasting nicely with the 'family' style of King's Quest, etc.) is best depicted by Al Lowe's luckless lover boy, who this time around goes in search of the missing disks of Leisure Suit Larry IV.

Here Larry must interview women to find a hostess for a sleazy TV show. But to Larry's cost, the Mafia becomes involved. More cheeky chuckles for fans of the series.

SORCERERS GET ALL THE GIRLS

Legend, £30.64

Not as saucy as the title suggests, this is nevertheless an engrossing and perplexing adventure from the old school. It's really just a text adventure, but a complex, entertaining and satisfying one nonetheless.

MAGNETIC SCROLLS COLLECTION 1

Virgin, £34.99

Reviewed in Issue 1, this three game package updates some of the adventure specialist's best-loved works using the all-new 'Windows' system (as seen in Wonderland). The games included are Corruption, Fish! and Guild of Thieves. Good value.

Rated 7

THE SECRET OF MONKEY ISLAND

Lucasfilm, £30.99

A real joy to play, Lucasfilm's first tale of dark doings on the high seas used the wealth of experience gained over five years of development, Indiana Jones, etc, to produce one of the best adventures yet. The game is divided into three parts: the first deals with hero Guybrush Threepwood's attempts to become a pirate; the second his journey to Monkey Island; and the third all about the island itself. Good music, neat animation and

detailed graphics and a superb control system all combine to produce an enjoyable experience.

THE SECRET OF MONKEY ISLAND 2

Lucasfilm, £39.99

More buccaneering brilliance with a smile on its face, as the original's hero, Guybrush Threepwood, once again takes on the evil ghost pirate LeChuck. This game demonstrates just how many brain-teasers can be constructed within the limitations of an icon-based control system. Outstanding VGA graphics with impressive lighting and shading add to the piratical atmosphere. It's also packed with jokes. Reviewed in issue 3, this is a perfect progression from the original.

Rated 9

SPACE QUEST IV

Sierra, £39.99

In yet another ongoing saga, Sierra's comical space hero,

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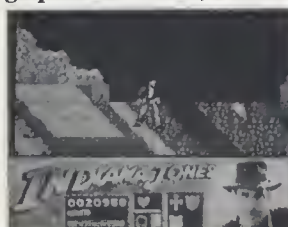
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INDIANA JONES AND THE LAST CRUSADE

Lucasfilm, £30.99

One of the great animated graphic adventures, with plenty of atmosphere, and humour, which has only really been surpassed by Lucasfilm's subsequent efforts (now available in a double pack with Zak McKracken And The Alien Mindbenders).



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ADVENTURE

Roger Wilco, once again boldly goes on a mission that's about as much to do with time travel as space exploration and never takes itself too seriously. Sierra fans will know exactly what to expect – the unexpected! And that means he has somehow landed slap bang in the scenario for Space Quest XII: Vohaul's Revenge and becomes involved with the Sequel Police who believe Roger's adventures have gone on far too long. Easy point and click interface control, odd-ball puzzles and digitised artwork.

SPELLCASTING 201 Legend, £34.99

Like Sorcerers Get All The Girls, this one was developed by the master of the tongue in cheek adventure game, Steve Meretzky. Reviewed in Issue 1, Spellcasting will appeal to any adventurer who doesn't take things too seriously.

Rated 7

WONDERLAND Virgin, £34.99

An adventure built and played through an all-new 'Windows-style' user interface, Magnetic Scrolls' Wonderland turns Lewis Carroll's masterpiece into an absorbing beautiful game.

KING'S QUEST V Sierra, £39.99

Roberta Williams' King's Quest was the original animated adventure game – and over the years the series has gone from strength to strength. Highly entertaining and user-friendly, this is well worth clearing out your hard disk for.

CRUISE FOR A CORPSE

A whodunnit set on the Karaboudjan yacht in the 1920s featuring Delphine's Cinématique graphic interface. Reviewed in Issue 6.

Rated 8

ARCADE STRATEGY

BATTLETECH 2

Infocom, £35.99

Based on a highly popular futuristic combat board game, Infocom's Battletech showed in no uncertain terms that there was potentially more to that late, great company than text adventures.

Here huge mechanised monsters – Mechs – stride the land battling out with huge and powerful weapons. But this isn't just a shoot 'em up. There is a large degree of strategy involved. Reviewed in issue 3.

Rated 5

3D CONSTRUCTION KIT

Domark, £49.99

Build your own 3D worlds with this unusually powerful game creator from the team that brought you Total Eclipse and Driller. As well as constructing the geometric scenery, you can also add your own borders and music, and set up animated effects.

CASTLES

Electronic Arts, £34.99

Probably the only computer game ever to be set in Wales, Castles sees the player design, build and then defend a castle. One for the long-term strategist.

BATTLE CHESS II

Electronic Arts, £29.99

A follow-on from EA's original animated chess game, this brings the pieces to life in the same humorous way as its predecessor, while introducing the more unusual rules of Chinese Chess to a Western audience.

ELITE PLUS

MicroProse, £39.99

Not so much a sequel as an upgrading of the classic space trading game. The aim is to achieve elite status in the areas of combat, trading and piloting your ship. The space battles are immense fun, providing a clean contrast to the trading sections.

STAR TREK: 25TH ANNIVERSARY

Interplay, £34.99

Attractive rendition of the long-running TV series which concentrates on playability rather than authentic, digitised character portraits. You play Captain Kirk, with eight different missions to accomplish with the help of your crew. Atmospheric, if not very profound.

Rated 7

PC Review Recommended

GODS

Renegade, £30.99

Reviewed in Issue 4, this was the first attempt at an arcade

adventure by the Bitmap Bros. "The best platform game to appear on the PC to date."

Rated 8

POPULOUS

Star Performers, £10.99

This is one of the rare breed that's so mould-breaking that it's almost become a generic term. Now available in a double-pack with Sim City, this is unusual, indescribable and a true work of genius – buy it.

MIDWINTER

Rainbird, £35.75

An instant classic, Maelstrom Games' 3D extravaganza looks so good that you might just forget it's an all-action game too. It covers 'green' issues including global warming and the threat of a new ice age. A landmark in computer entertainment. Look out also for its sequel, Flames of Freedom, which boasts more of everything (locations, characters, vehicles), with a similar playing style.

CIVILIZATION

MicroProse, £39.99

From the pen of Sid 'Railroad Tycoon' Meier, Civilization (reviewed in Issue 1) takes the player on a power trip through history. As the leader of a pre-historic wandering tribe you start out by finding a place to settle, expanding your population and the lands they inhabit. Slowly you lay the foundations of a society, building roads, towns, cities etc, and prepare for attacks from barbarian tribes. An immensely satisfying strategy game of planning, conquest, negotiation and exploration. Thoroughly addictive.

Rated 7



POWERMONGER

Electronic Arts, £34.99

Bullfrog's next one on from Populous didn't have quite the same impact as its predecessor, but it remains a classic war game and graphically impressive to boot.

The amount of detail in the game is incredible – birds rustling feathers, voices of blacksmiths in their workshops and cheering. An epic entertainment. Check out the review in Issue 3.

Rated 8

STELLAR 7

Dynamix, £39.99

Remember the original arcade game Battlezone? Dynamix' interpretation is a bit more colourful, but thankfully the old-fashioned game play has

not been thrown out with the old-fashioned presentation. It's just as addictive now as then and well worth a look.

LIFE & DEATH II

Software Toolworks, £25.99

Your chance to work in the theatre – the operating theatre that is. Hilarious, messy and harmless, exactly what computer games should be.

SIM CITY

Infogrames, £29.99

Maxis' mix of town planning, crisis management and downright megalomania has achieved the impossible – to make urban politics fun! Build up your town from a green field site, populate it

with people, give them a transport network and services, and then try to maintain law and order as they take on a life of their own. Definitely not to be missed.

SIM EARTH

Ocean, £40.86

Not so much a world manager as a world builder, Maxis followed Sim City with an educational tool based on the Gaia hypothesis and puts the player in charge of every single aspect of a living planet, from the raising and lowering of land masses to the creation and population of the seas. Complex in the extreme, and detailed enough to keep your interest for many months. You need a 286 or above to really appreciate the game.

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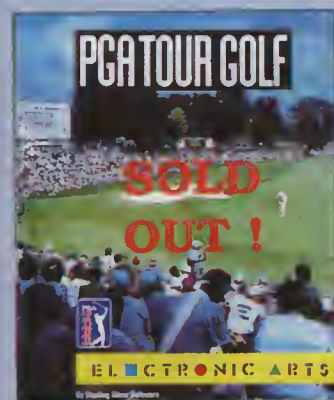
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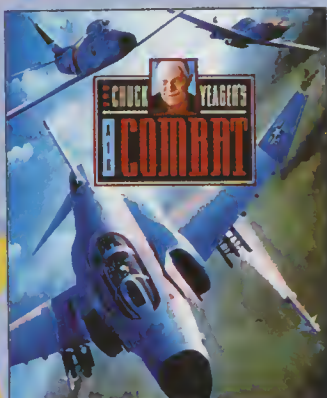
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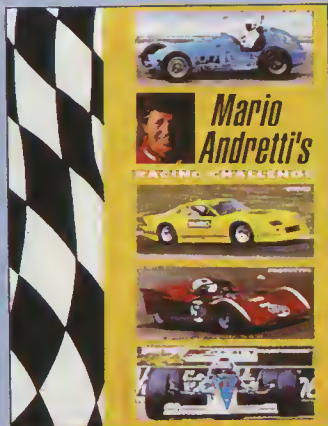
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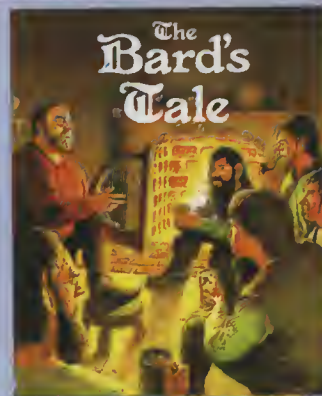
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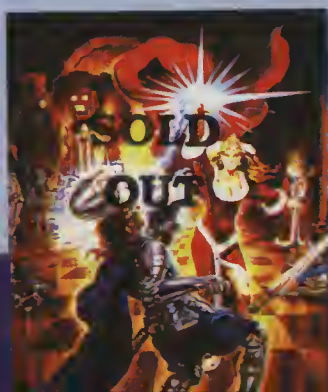
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Buyers' guide

Because all of us here at *PC Review* are PC users as well as reviewers we're perfectly placed to know that shopping for your PC can be a veritable nightmare, even if you're looking for something as simple as a joystick. The PC's open architecture has meant that expanding the machine is a fairly simple operation, but it's also meant that, during its 10 years of existence, the machine has attracted an enormous number of manufacturers of both hardware and software. The choice facing the potential buyer is vast and continually growing.

That's why we've set aside more than 10 pages in each issue to guide you through the quagmire of hardware and software. Within this section you'll find up to date information on the very best hardware and software available. Not only will we tell you what you can buy, but where you can buy it from and how much it will dent your pocket.

We don't claim that the guide in a single issue is exhaustive, but over the course of a few months you'll find it builds up into an invaluable reference work for PC buyers.

Happy browsing!

HOW TO USE THIS GUIDE

We've divided the guide into four easy to use sections: Hardware lists add-ons and upgrades that will improve your PC's performance or add features not available on the basic model; Software gives you a run-down of a wide-range of productivity software and utility programs; Ancillary is for those of you who want to invest in a new machine or simply keep your existing machine in tip-top condition.

Within each section you'll find that we've listed the basic capabilities of each product as well as any major plus or minus points. If you're a little confused by *Technospeak* (and aren't we all from time to time) just turn to our *Technical Terms* panels for a simple explanation.

All of the prices given are inclusive of VAT at 17.5%, although where there is no recommended retail price for a particular product we've listed the average price, thus: c£550. Please bear in mind that these prices do not include postage and packaging, courier charges, etc.

If you require further details on a product then simply look up the supplier in our directory where you'll find an appropriate telephone number and address.

What could be simpler?

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Anyone – suppliers, publishers, readers – who knows of products suitable for inclusion but which have mysteriously been omitted can write in with details (write, please, don't phone) to the address at the front of the magazine.

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MEMORY UPGRADES

Most PCs will take extra memory chips, either on a slot-in card, or directly onto the motherboard – and just as well, given the latest crop of memory hungry games. The minimum RAM acceptable these days is 640K; some older PCs (such as the Amstrad PC1512) were sold with 512K. However, an increasing

number of games make use of extended or expanded memory above 640K, and you'll need a good 2Mb should you ever want to run Windows. The prices quoted here are for a selection of IBM and Amstrad machines. Prices for other clones may vary.

Size/Type	Price	Comments	Supplier
1Mb/Card	£94	For IBM XT	Memory Direct
2Mb/Card	£146.88	For IBM XT	Memory Direct
2Mb/Card	£164.50	For IBM AT	Memory Direct
2Mb/Card	£246.75	For IBM AT (LIM 4)	Memory Direct
4Mb/Card	£339.57	For IBM AT (LIM 4)	Memory Direct
640K/Chip Set	£29.95	For Amstrad PC1512	Evesham Micros
4Mb/Chip Set	£160	For Amstrad PC2286	Evesham Micros
16Mb/Chip Set	£815.45	For Amstrad PC2386	Memory Direct

TECHNICAL TERMS

The original XTs and ATs could only directly address a maximum of 640K of RAM, but there are two methods of extending the available RAM on these machines. The first is known as **Extended Memory** (memory located above the first megabyte which can be directly addressed by the 80286 and its successors), while the alternative is **Lotus Intel Microsoft Expanded memory Specification (LIM EMS)**, named after the three companies that developed it. **LIM 4** is the latest version of this, designed to work with DOS version 4.0 and beyond. Most software that uses extended or expanded memory is configured to work with only one of these systems, so you should check which of them your applications support before you make a buying decision.

HARD CARDS

No room for a hard disk drive? Want a simple plug in, cheaper solution? Hard cards fit into a free expansion slot and can be used as a conventional hard drive.

•The XL versions of Time's Smartcards are supplied without driving software. If you wish to buy the version with the software please add £47 to the listed price.

Model	Type	Capacity	Speed	Width	Price	Supplier
Smartcard 30XL	XT/AT	32Mb	24ms	1 Slot	£205.62	Time
32MbXT	XT	32Mb	40ms	1.5 Slots	£186.83	RSC
Smartcard 40XL	XT/AT	40Mb	24ms	1 Slot	£229.13	Time
45MbXT	XT	45Mb	19ms	1 Slot	£233.83	RSC
45MbAT	AT	45Mb	19ms	1 Slot	£233.83	RSC
Smartcard 100XL	XT	100Mb	19ms	1 Slot	£417.13	Time
Smartcard 100XL	AT	100Mb	19ms	1 Slot	£534.63	Time

TECHNICAL TERMS

Cards which occupy **1.5 slots** will prevent you from plugging a full length card into the adjacent expansion slot, so check the arrangements of existing cards in your PC and plan carefully if you intend to utilise any unoccupied slots in the future. The **speed** of a card is an indication of its average **seek time** (the time it takes for the read/write heads to reach the appropriate location on the disk).

•RSC's cards are supplied with a free copy of Norton Utilities v.5 (RRP £139)

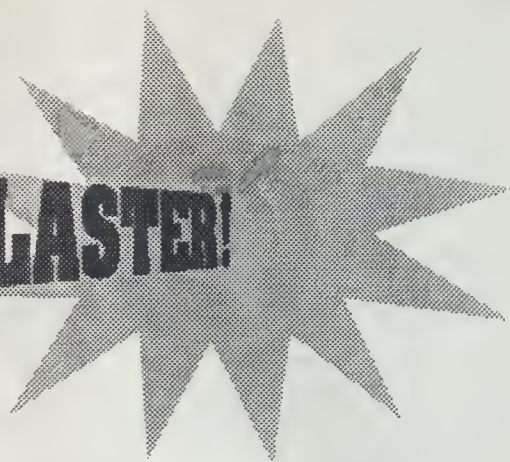
HARD DISKS

Model	Interface	Capacity	Speed	Size	Price	Supplier
Seagate ST325N	SCSI	32Mb	28ms	3.5" 1" high	£205.63	Dataplex
Seagate ST351A/X	AT/XT	42Mb	28ms	3.5" 1" high	£193.88	Dataplex
Seagate ST125A	IDE	21Mb	28ms	3.5" half height	£170.38	Corporate Upgrades Ltd
Seagate ST157A	IDE	44Mb	28ms	3.5" half height	£163.33	Corporate Upgrades Ltd
Seagate ST225	MFM	21Mb	65ms	5.25" half height	135.13	Dataplex
Conner CP3024	IDE	21Mb	27ms	3.5" 1" high	£176.25	Unimart Computers Ltd
Conner CP3044	IDE	42Mb	25ms	3.5" 1" high	£217.38	Unimart Computers Ltd

TECHNICAL TERMS

You can only fit an internal hard drive if you have a suitably sized spare drive port in your machine. If you are at all unsure you should first check with the supplier of your machine which size of hard drive you will be able to fit. There are a number of different hard drive interfaces in use so make sure that you buy the appropriate drive.

SOUNDBLASTER!



SoundBlaster Pro FEATURES

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- * Digitised Voice Input (DMA)
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SoundBlaster v2 is the best choice in stereo sound cards for the PC. With 11 FM sounds, built-in sampling from 4KHz to 23KHz, built-in MIDI interface, various bundled software; text-to-speech synthesis, joystick port, microphone amplifier & jack, and Ad-Lib compatibility ensure that the SoundBlaster card gives you a high specification sound card at an affordable price.

The SoundBlaster Pro includes all the features of the original SoundBlaster and more! The Pro has 22 FM sounds, 4KHz to 44KHz sampling rate, CD-ROM interface, MIDI interface & cables as standard and Stereo mixer & Sequencer software to give you complete control of your music and graphic presentations. The SoundBlaster Pro is the ultimate sound card for your PC.

West Point Creative have now released a complete Multimedia upgrade kit for the PC. Comprising of the stunning SoundBlaster Pro card, a high performance internal CD ROM drive, MS Windows + Multimedia extensions and a host of bundled software. The CD ROM has a 64K cache buffer and 150K per second data transfer rate. Also available is a further upgrade which includes a MIDI Kit, SB Pro sequencer and the disks - Creative Sounds, Microsoft Bookshelf, Select Ware Systems demos, and 'Jones in the Fast Lane' game. Complies with the Multimedia PC standards, giving full multimedia compatibility.



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All prices exclude VAT & Delivery. Prices and specifications subject to change without notice. All trademarks acknowledged.

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If you're using a PC which has only floppy disk drives, then a hard drive could change your life. With capacities ranging from 20Mb to well over 100Mb (more in business heavyweight machines), you can store all your programs, all your data, on the one drive, and still access it far more quickly than on floppy. No more disk-swapping every five minutes, no more booting DOS from floppy every time you switch on. Also, more and more games these days actually require you to install them on a hard disk.

GRAPHICS CARDS

The PC has had a long and chequered history of different graphics standards, thanks to IBM's decision not to include graphics at all in the original machine. The current best standard now for games is VGA (Video Graphics Array): with a maximum of 256 colours on-screen, this really shows off the potential of PC games.

Type	RAM	Size	Resolution	Colours	Price	Supplier
Hercules	64 Kb	8-Bit	640x350	2	£28.20	Watford Electronics
CGA	64Kb	8 bit	320x200	4	£37.60	Watford Electronics
EGA	256Kb	8-Bit	640x350	16	£76.38	Watford Electronics
VGA	512K	16 bit	1024x768	256	£92.83	Dataplex
SVGA	1Mb	16 bit	1024x768	256	£92.83	DS Computers

• *Watford Electronics graphics cards are all supplied with a built-in parallel printer port.*

SOUNDBOARDS

Until recently, the best the PC could produce in the way of sound was 'beep'. But the advent of soundboards has changed things dramatically. A soundboard will take up a single expansion slot and produce genuine music and background sound effects in the games which support it – which is an ever-increasing number these days. Below are the 'standard' soundboards catered for by most titles.

Name	Supplier	Price
AdLib	Mindscape	£89.99
Comment Currently the most popular system, and a good trade-off between price and performance.		
LAPC-1	Roland	£379.00
Comment Superb sound quality probably priced out of the reach of many games players. Non AdLib-compatible.		
SoundBlaster v2.0	WestPoint Creative	£139.95
Comment AdLib-compatible and capable of producing sampled sounds. Try it with Wing Commander 2 to hear what we mean!		
SoundBlaster Pro	WestPoint Creative	£249.95
Comment Has all the features of soundblaster, but is compatible with many CD ROM games.		



JOYSTICKS

No provision is made in the design of the standard PC to plug a joystick in directly. You'll need a joystick card in one of your expansion slots which allows an analogue joystick to be plugged in. A number of manufacturers sell both cards and joysticks together. For flight sims and racing games,

yoke and pedal style controllers are also available.

- *The Tecniche stick is available without games card for £17.61*
- *The Analog sticks are both available without games cards for £12 and £15 lower than the marked prices respectively.*

Product	Price	Supplier	Comments
Anko AK-GC27A	£19.95	ABS Computer Supplies	Auto-fire option
IBM Joystick	£19.95	Computer Mates Ltd	Includes games card
Powerport 2	£63.45	Power Mark	Self-adjusting PS/2 Twin Port
The Yoke	£57.58	Power Mark	Self-centring Yoke
Gravis Analogue Stick	£48.18	Power Mark	8 Tension adjusters!
Tecniche PC Power Stick	£23.49	RSC Ltd	Includes games card
Analog Edge	£29.99	Evesham Micros	Includes games card
Analog Xtra	£39.99	Evesham Micros	Includes games card
Gravis PC Mousestick	£89.95	RC Simulations	Includes games card

MICE AND TRACKBALLS

Many games are tailored to be easily controllable with a mouse, which is much more of a standard PC add-on than a joystick. Then again, there is the trackball, which in effect is an upside-down mouse, with you moving the ball directly to control on-screen movement – useful if your desk space is limited or you're using it with a portable machine.

Product	Price	Supplier	Comments
Genius GM6000	£28.95	ABS Computer Supplies	Includes pocket, pad and software
Genius GMF302	£37.95	ABS Computer Supplies	As above, higher resolution

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GAMES COMPENDIUM 2 (Another 100 quality games)

Titles include: Wizards Lair, Hurtle, Kursk, 3D Startrek, Condo, Bass Tour, Tron, Golden Wombat, Monuments of Mars, PC Railroad, Sorry, Frigate, Antix, EGA Casino Games, Dungeons of Doom, Shooting Gallery, Viking, Ninja...and many, many more!

GAMES COMPENDIUM 3 (Yet another 100 great games)

Arctic Adventure, Duke Nukem, Allens Laughed, Moraff's World/Pinball / Superblast, Popcorn, Croz II, Dracula in London, Groundwar, Picture Puzzle, lots of joke programs...and much more!

WINDOWS SHAREWARE 1 (Over 100 general programs)

cludes Aporia, Almanac, Active Life, Command Post, Icon Draw, Icon Tamer, Icon View, all nine Metz utilities, Bigdesk, Back Menu, Winzip, Whiskers, Navigator, Organise, Paintshop, Snagit, Inpost, Winedit, Dozens of utility programs, over 340 icons, Windows fonts, bitmaps, picture file conversion utilities. Contains over 10mb of Windows programs when unarchived!

WINDOWS SHAREWARE 2 (Over 115 games programs)

Titles include: Atmoids, Backgammon, Chaos, Checkers, Fractal Paint, Fireworks, Islands, Klotz, Lunar Lander, Magic, Mines, Pente, Pool, Screenpeace, Spacewalls, Sage, Space War, Tile Puzzle, Pipe Dreams, Taipei, Winfract, Winchess, Winjack, Winpoker, ...and many, many more.

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Battleset #4 "Indian Ocean".....£14.99

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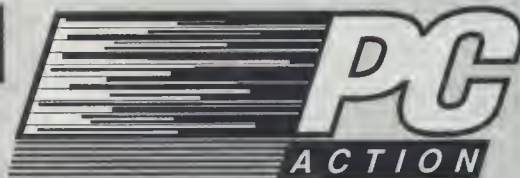
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GAME LIMITED

Product	Price	Supplier	Comments
Anko AKTB500	£49.95	ABS Computer Supplies	Trackball with 'drag button'
Logitech Mouseman	£62.28	Acolyte Services	
Cordless Mouseman	£116.33	Acolyte Services	Uses radio technology
Logitech Pilot	£45.83	Dataplex	
Tec-Mouse	£34.08	Dimension Computers Ltd	Includes paint software
Microsoft Ballpoint	£104.58	Dimension Computers Ltd	Trackball for portables
Amstrad Mouse	£22.33	Dimension Computers Ltd	Works with Amstrad PCs
Axelen Mouse	£21.15	DS Computers	
Truemouse	£22.99	Evesham Micros	Serial/ PS/2 /Amstrad versions
Cordless Truemouse	£49.95	Evesham Micros	As above but with infra-red link
Golden Image Mouse	£34.95	Evesham Micros	Optical Mouse
Trackball	£39.99	Evesham Micros	Features lock drag
Mousepen	£116.33	KSI	Mouse shaped like a pen
Unmouse	£159.80	Picture Perfect UK Ltd	Tablet - use finger as
mouse!Nakasha Mouse	£41.13	RSC Ltd	Includes DPaint II
Squik Mouse	£19.98	RSC Ltd	Low cost serial mouse

TECHNICAL TERMS

A Mouse or Trackball requires a suitable **driver** to be installed before it will operate. Most devices are supplied with suitable software, but you should check first with the manufacturer. You should also note that there are different types of mice and trackballs designed to work with different systems (eg **Serial** and **Microsoft Compatible**), so make sure that you are buying the device that is correct for your model of PC.

MODEMS

Get your PC to be more sociable. A modem will connect you to other PCs via the telephone lines, giving you access to bulletin boards, public database networks and multi-user games - or you can simply use it to send messages to friends.

Product	Price	Manufacturer
Biscom (internal)	£258.50	Dataflex
Biscom (external)	£323.13	Dataflex
Comfax (internal)	£387.75	Dataflex
Comfax (external)	£517.00	Dataflex
Courier 2400e Quad (internal)	£464.13	Miracom
Courier 2400e Quad (external)	£522.88	Miracom
Keycard 3000 V22	£346.63	Miracom
Keycard 3000 V22 BIS	£464.13	Miracom
PC Professional	£517.00	Dataflex
Quadcom (internal)	£387.75	Dataflex
Quadcom (external)	£517.00	Dataflex
Rapier (internal)	£646.25	Dataflex
Stradcom (internal)	£193.88	Dataflex
Stradcom (external)	£229.13	Dataflex
WS4000 (SB2422)	£186.83	Miracom
Quattro 2400	c£500.00	Dowty
Smartmodem 2400 Quad	£339.57	Hayes
SM2400	£222.08	Amstrad
Milgo Maxam IV	£468.83	Racal
2400 MNP Class 5	£468.83	Worldport

TECHNICAL TERMS

PC Modems come in two types: **internal** and **external**. Internal versions require a spare expansion slot, but they are usually £50 to £100 cheaper than their external counterparts. External versions plug into a **serial port** instead. If you are going to use your modem mainly to communicate with one other party (e.g. a particular bulletin board) then you should first check which **protocol** is in use by them and buy the appropriate modem.

DOT-MATRIX PRINTERS UNDER £300

Dot matrix printers are coming down in price, but at the same time the quality is improving; letter quality modes are no longer dotty or lacking true descenders on letters such as 'g' or 'y'. This is particularly true of models with a 24-pin printhead. This is probably a good time to buy.

Company/model	Price	Speed	Buffer	Type
Amstrad DMP3160	£233.83	160/40	16K	9-Pin
Brother M-1209	£264.38	168/35	2K	9-Pin
Citizen 124D	£292.58	120/40	8-32K	24-Pin

Company/model	Price	Speed	Buffer	Type
Epson LX850	£269.08	200/30	4-32K	9-Pin
Mannesmann Tally MT81	£186.83	155/26	8K	9-Pin
Olivetti DM109	£257.33	240/36	21K	9-Pin
Panasonic KX-P1180	£252.63	192/38	2-K	9-Pin
Samsung SP 0930N	£222.08	300/50	3-11K	9-Pin
Seikosha SP1900AI	£116.33	192/40	1K	9-Pin
Seikosha SP2000	£233.83	160/40	6K	9-Pin
Victor VP10D	£210.33	175/30	None	9-Pin

TECHNICAL TERMS

A printer's **speed** is a measurement of the number of characters it can print per second. The first figure is for **draft mode** and the second figure is for **Near Letter Quality (NLQ) mode**. The **Buffer Size** is an indication of the amount of internal memory the printer has. The higher this figure is, the quicker your PC will be released to perform other tasks.

INK JET PRINTERS

Ink jets are the newly fashionable item for style-conscious PC owners: with distinctly better print quality than dot matrixes, the advantage of being virtually silent.

Company	Model	Price	Speed (Pages per minute)	Resident fonts
Mannesmann	Tally	£1,099.4	pp	14 bitmap
Seikosha	OP-104	£940	4	14 bitmap
Hewlett-Packard	LaserJet III	£1,749	8	8 Scalable
Samsung	SL-1081A	£891	8	24 bitmap
Oki	OL830	£1,499	8	7 scalable Adobe
Oki	OL400	£899	4	25 bitmap
Olivetti	PG308	£1,399	4	24 bitmap
AEG	Laserstar 6	£999	6	9 Fonts

LASER PRINTERS

Laser printers have the same advantage of being quiet as ink jets and while they are not much more expensive, the resolution is markedly better. Laser printers are rapidly replacing dot matrix models as the standard office 'workhorse'.

Company	Price	Speed	Buffer
Brother HJ100	£405.38	142/83	37K
Canon BJ300	£699.13	300/150	30-128K
Epson SQ850	£903.58	600/198	8K
Hewlett-Packard DeskJet 500	£586.33	240/120	16K
IBM 4072 ExecJet	£868.33	600/300	30K
Mannesmann Tally MT9	£938.83	220/110	32K
Olivetti JP350	£586.33	360/120	8K

EXTERNAL DRIVES

If you don't have space for any more floppy disk drives – a problem with newer slimline models, you can always add an external model.

Model	Size	Capacity	Price	Supplier
IBM compatibles	3.5"	720Kb	£109.95	ABS Computer Supplies
IBM Compatibles	3.5"	1.44Mb	£119.95	ABS Computer Supplies
IBM Compatibles	5.25"	360Kb	£119.95	ABS Computer Supplies
IBM Compatibles	5.25"	1.2Mb	£129.95	ABS Computer Supplies
Amstrad 2000 range	5.25"	360K	£57.58	RSC Ltd
Amstrad 2000 range	5.25"	1.2Mb	£76.38	RSC Ltd
Olivetti/Amstrad 3000s	5.25"	1.2Mb	£175.08	RSC Ltd

CD ROM DRIVES

Are you looking to make your PC the ultimate games machine? Then a CD ROM drive is the perfect addition. CD ROMS offer a huge storage capacity, typically the equivalent of about 700 720Kb floppy disks! The only disadvantage is the slow access speed. There are not too many games or other CD ROM applications available at the moment, but the list is growing larger every month.

Model	Price	Supplier	Comments
Chinon CDS431	£351.33	SMC Computers	Internal
Goldstar GT2000	£398.33	SMC Computers	External
Philips CM50	£316.08	Diamond Computers	Portable

•The Philips drive comes with a free copy of World Atlas and Audio Player

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HAND SCANNERS

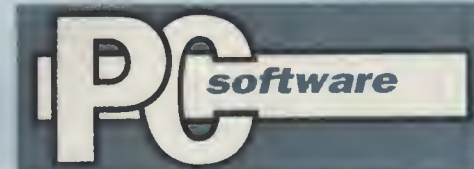
If you use any sort of Desktop Publishing package, then a hand scanner is an invaluable addition to your PC. While most hand scanners can only read small images and at a relatively low resolution, they are considerably cheaper than flatbed scanners.

- The PC Hand Scanner comes with a free copy of Microsoft Windows.
- The Marstek M105 Plus and M800 Plus are also available in versions for Windows. Add the suffix W to the model number and read the price as £139.83 and £186.83 respectively.

Model	Price	Colours	Supplier
AG-256	£164.50	256 grey shades	Watford Electronics
Genius GS-B105G	£176.25	256 grey shades	Reeves
PC Hand Scanner	£82.19	16 grey shades	UK Home Computers
Marstek M105	£81.08	64 grey shades	RSC Ltd
Marstek M105 Plus	£110.45	64 grey shades	RSC Ltd
Marstek M800 Plus	£169.20	64 grey shades	RSC Ltd
Marstek M-6000 CG Color Artist	£327.83	262,144 colours	RSC Ltd

DIGITISERS

While not being quite so high up on the essential DTP buy list as a scanner, a rudimentary digitiser can transform the appearance of your documents. Digitisers will allow you to import line-based artwork by tracing it with a stylus or puck. They're also ideal for Computer Aided Design applications.



GRAPHICS SOFTWARE

So you're the artistic type? If so then in the PC you have a potentially limitless canvas, not to mention a huge choice of software with which to realise your potential. Here's a selection of the best for budding Renoirs.

Product	Price	Supplier	Comments
VBase	£175.08	Highland Grafix	Full colour picture database
Clip Art	£5.88	Cybernetic Imagination	Range of disks containing 30 images each in PCX or IMG format
Deluxe Paint II Enhanced	£99.99	Electronic Arts	The standard cheap paint program for PCs
Deluxe Paint Animator	£99.99	Electronic Arts	One of a range of DPaint add-ons
Disney Animation Studio	£99.99	Empire	Cel animation package
Corel Draw v2	£270.25	Corel	Very popular and versatile
Designworks	£149.00	GST Software	New drawing package, comprehensive and great value

DTP SOFTWARE

The PC has always been a superb machine for DTP applications, and now that Windows 3 is firmly established this is even more the case. There are already a host of excellent DTP packages available for the PC at prices to suit every pocket. Here is just a small selection.

Product	Price	Supplier	Comments
Page Plus	£160.98	Serif	Budget priced page layout for Windows
Timeworks Lite	£41.13	GST	Simple DTP
Deskpress	£235.00	GST	Timeworks and more!
Pagemaker	£457.08	Aldus	Professional DTP package
Ventura Publisher	£587.50	Ventura	Professional DTP Package
Timeworks DTP 2	£116.33	GST	Improved version of the budget system

COMMUNICATIONS SOFTWARE

If you're one of those sociable types that likes to link-up, go on-line, and download from time to time then you're going to need some suitable software to get in touch with your fellow PC owners.

Product	Price	Supplier	Comments
Sage Chit-Chat	£66.98	Computers By Post	
Crosstalk	£71.68	Computers By Post	For Windows 3
Eazlink	Shareware	Various	Try before you buy!
Mirror 3	£121.03	Computers By Post	With teletext emulation
PC Anywhere IV	£101.05	Computers By Post	
Procomm Plus	Shareware	Various	Very Powerful System
Odyssey	£104.57	Shareware Marketing	Cost effective advanced comms

There are plenty of packages to choose from, especially in the Public Domain libraries. Here are a few we recommend you consider.

COMPOSING SOFTWARE

Gone are the days when you had to sit huddled over a second-hand Bontempi scratching notes onto a piece of torn manuscript. Most modern PC music packages make life a lot easier, some will even construct the score for you!

Product	Price	Supplier	Comments
Music Studio 3	£70.50	Datel	Sequencer, composer, score printing.
SPJunior	£163.325	Computer Music Systems	Music package
Sequencer plus Junior	£64.63	Computer Music Systems	64 track sequencer
Sequencer Plus Classic	£193.88	Computer Music Systems	500 track sequencer
Cadenza	£198.58	Digital Music	Sequencer with graphic editing
The Musicator	£368.95	Digital Music	Notation based sequencer
The Composer's Pen	£146.88	Composit Software	
Pianola	£29.38	Clockwork Software	
SongWright	£99	PC Services Scorewriting system	

ANTI VIRAL

It's a sad state of affairs that Anti-Viral software is needed at all, but unfortunately there are still lots of people out there in computerland who haven't grown up and think it's funny to wreck other people's work and enjoyment of their machine. Naturally the same people don't think it's very funny when it happens to them. If you are one of these people then may we express complete contempt for your activities on behalf of the computing community. If you're one of the remaining 99.9% of decent, honest computer users, here are a few useful pieces of software to protect you from the aforementioned nerds.

Product	Price	Supplier
<i>Dr Solomon's Anti-Virus Toolkit</i>	£69.33	S&S International
Comments: £99 for 4 quarterly upgrades; £275 for upgrades, monthly newsletter and fax alerts. Complete kit of tools for identification, removal of and immunisation against the dreaded virus, with other disk goodies too.		
<i>The Computer Virus Protection Handbook (Colin Haynes)</i>	£27.00	Sybex
ISBN 0-89588-696-0		
Comments: Includes 5.25" disk: The what, how and why of viruses including simulated ones on disk for quick recognition. Also covers disaster plans and industrial sabotage.		
<i>The Computer Virus Handbook (Richard B. Levin)</i>	£22.95	Osborne McGraw-Hill
ISBN 0-07-881647-5		
Comments: Lots of advice and short programs to avoid virus attacks. Covers hard disks too.		
<i>PC Immunise II</i>	£39.95	SA Software
Comments: Protects hard and floppy disks and files with three levels of detection and help screens.		
<i>Virus Buster</i>	#95	VB Software
Comments: Comprehensive and easy to install software. Checks for more than 550 viruses; first update free then #50 per year for maintenance.		
<i>Norton Anti Virus Version 1.5</i>	#149	Symantec
Comments: Comprehensive, provides protection against 700 viruses, price includes opportunity to attend Virus Clinic and access to Virus InfoLine for latest information.		

MISCELLANEOUS UTILITIES AND PRODUCTIVITY SOFTWARE

Can't find what you're looking for in our other software sections? Then you'll probably find it here. Below we present a pot pourri of the very best of the rest.

Product	Price	Supplier	Comment
Autoroute Express	£61.10	NextlBase	First rate route planning software
Coursemaster	£29.38	IntraSet	Betting aid for flat & hunt racing
Eight In One Gold	£115.15	Logman Logotron	Integrated WP, spellchecker, outliner, spreadsheet, database etc.
Flexibak Plus	£35.25	Nildram	Hard disk back-up utility
Framework IV	£458.25	Ashton-Tate	One of the better integrated systems
LogoLink	£34.08	Locomotive	Transfer files PCW-PC
Microtext Adaptor	£198.58	Microtext	Half card adding teletext to your PC
Mini Office Personal	£29.38	Europress	Database, WP, spreadsheet, label printer and comms.
Money Manager	£58.75	Connect Software	Household Finance
PC2 Teletext	£176.25	Microboss	External teletext adaptor and software
Printing Press	£45.83	Power Up	Make letterheads, posters etc
ProBook	£52.88	BBHW	Database and address book
Scoredraw	£72.00	RDN	Comparative analysis system for football result prediction

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Product	Price	Supplier	Comment
Trackmaster	£20.00	Intraset	Greyhound racing tipster
Xtree Easy	£58.75	Softsel	DOS File manager
386^MAX	£79	International Data Systems	Memory Manager
Hijaak	£95	Software Paradise	Easy to use screen capture programme
Fast Lynx	£124.95	Ctrl-Alt-Deli	File transfer between PCs
Mace Utilities	#59.00	Software Construction Co	Intelligen full function disk recovery and optimiser.
Magellan	£115	Lotus Development	File viewer that finds a file in seconds.
Microsoft Works	#145		Capable and comprehensive integrated package
Microsoft Works for Windows	#145	Windows 3	integrated package - excellent value
Microtext Adaptor	£198.58	Microtext	Half card adding teletext to your PC
Mini Office Personal	£29.38	Europress	Database, WP, spreadsheet, label printer and comms.
Norton Utilities Version 5	£100	Symantec	Classic disk recovery & optimiser
Pinch and Punch 5	#30	Iolo Davidson	Simple to use screen grabber
PC Tools V 7	#139	Central Point Software	Good range of easy to use utilities
ProBook	£52.88	BBHW	Database and address book
Professional Master Key	\$25	Shareware	Shareware counterpart of Norton utilities
QEMM	#65	Quarterdeck	Memory Manager
Spinrite II	#89	Software Paradise	A disk optimiser specially designed to detect and correct disk problems before they occur
System Sleuth	#99.95	Megatech	Tells you what's inside your PC

PORTABLES

Whether for games or more serious use, a portable enables you to take your programs with you. Most are best used when you are able to plug into the mains on-site: battery power normally lasts between 1.5 to 3 hours. Portables are now becoming genuinely slim and light enough to carry around in comfort.

Company/Model Screen	Price (ex. VAT) Slots	Speed Weight	Disk Size Size (mm)	RAM
Amstrad ACL-386SX	£3,999	20 Mhz	120 Mb	4 Mb
VGA LCD	Yes	8.0 Kg	320x400x113	
Compaq SLT 386S/20	£4,195	20 Mhz	60 Mb	2 Mb
VGA LCD	Yes	6.4 Kg	106x343x216	
Dell System 320LT	£1,999	20 Mhz	20 Mb	1 Mb
VGA LCD	Optional	6.8 Kg	318x89x360	
Epson AX 3/33	£5,999	33 Mhz	80 Mb	4 Mb
VGA LCD	Optional	7.8 Kg	360x325x110	
NEC Prospeed 286	£3,145	16 Mb	40 Mb	1 Mb
VGA LCD	No	6.8 Kg	330x376x89	
Olivetti A12	£1,199	12 Mhz	20 Mb	1 Mb
CGA LCD	No	2.95 Kg	297x210x52	
Panasonic CF-270	£2,195	16 Mhz	20 Mb	1 Mb
VGA LCD	No	3.1 Kg	310x245x44	
Philips PCL101	£799	10 Mhz	No	1 Mb
CGA LCD	No	1.6 Kg	220x280x28	
Samsung 386S/16	£2,220	16 Mhz	60 Mb	1 Mb
VGA LCD	No	3.2 Kg	297x213x51	
Sanyo MBC-17NB	£1,495	12.5 Mhz	20 Mb	1 Mb
VGA LCD	No	3.2 Kg		
	310x255x52			
Sharp PC-8501	£7,995	20 Mhz	100 Mb	2 Mb
VGA LCD	No	6.9 Kg	318x399x94	
Tandy 1500HD	£1,300	10 Mhz	20 Mb	1 Mb
CGA LCD	No	2.7 Kg	309x245x94	
Toshiba T3100SX	£3,850	16 Mhz	40 Mb	1 Mb
VGA Plasma	Optional	6.8 Kg	360x310x80	
Zenith Supersport SX	£2,795	16 Mhz	40 Mb	1 Mb
VGA LCD	No	7.7 Kg	380x310x85	

MAINTENANCE AND REPAIR

A variant of Parkinson's Law states that your computer probably won't go wrong while you still have that 12 month, on-site warranty intact. Once it expires, that's when the machine will start playing up. Below we list some of the companies which will provide you with a service contract and then come to your rescue.

Company	Price	Duration	Call Out
Data Recovery Service			
AEM	10-12% value	5 years	24-48 hours
FMG	Up to £470 PA	5 years	Next day
Kalamazoo	9-12% of value	5 years	8 hours
Newbury Data	6-12% of value	Flexible	8 hours
Response	8-11% of value	Flexible	8 hours



Below you'll find contact numbers and addresses for all the suppliers we've mentioned in the sections covering hardware and serious software.

ABS Computer Supplies 4 Shouldham Street, London, W11 5FG.	071 224 8320
Acolyte Services Victoria Buildings Business Centre, Violet Street, Paisley, PA1 1PA.	041 848 0055/0066
AEG Olympia The Ridgeway, Iver, Bucks SL0 9HX	0753 630111
AEM Unit 4, Tewkesbury Ind Est., Green Lane, Tewkesbury, Glos., GL20 8HD	0684 850505
AKORE Limited Shareware 7 Fishergate Point, Lower Parliament Street, Nottingham NG1 1GD	0800 252221
Freepost, Akore, Nottingham, NG1 1BR	
Amstrad (Centresoft)	021 625 3302
Amstrad plc PO Box 462, Brentwood, Essex, CM14 4EF	0277 262326
Brother Shepley Street, Audenshaw, Manchester M34 5JD	061 330 6531
Canon UK Manor Road, Wallington, Surrey SM6 0AJ	081 773 3173
Citizen Europe Wellington House, 4/10 Cowley Road, Uxbridge UB8 2XW	0895 272621
Compaq Hotham House, 1 Heron Square, Richmond TW9 1EJ	081 332 3000
Composit Software 10 Leasowe Green, Lightmoor, Telford, Shropshire, TF4 3BR	0952 595436
Compuadd 7 Great Western Way, Bristol BS1 6HA	0272 637488
Computer Manuals 50 James Road, Tyseley, Birmingham B11 2BA	021 706 6000
Computer Mates Pinewood Studios, Iver Heath, Bucks, SL0 0NH.	0753 631101
Computer Music Systems Ltd 5-7 Buck Street, London, NW1 8NJ	071 482 5224
Computers By Post 12 Sutton Lane, Banstead, Surrey, SM7 3QP.	081 760 0014
Connect Software Ltd 3 Flanchford Road, London, W12 9ND	081 743 9792
Corel Xitan, 1-4 Chevron Business Park, Lime Kiln Lane, Holbury, Southampton SO4 1QL	0703 899321
Corporate Upgrades Ltd Premier House, 2 Daton Road, Harrow, Middx HA1 2XU	081 861 2370
Ctrl-Alt Deli 26 North 12 Street, Central Milton Keynes, Bucks MK9 3BT	0908 662759
Cybernetic Imagination Systems Ltd 21A Church Road, Watford, Herts, WD1 3PY	0923 252196
Datacom Landata House, Station Road, Hook, Hampshire RG27 9JF	0256 763911
Dataflex 10/12 Lombard Rd., South Wimbledon, London SW19 3TZ	081 543 6417
Dataplex 129 Bath Road, Slough, Berks, SL1 3VW	0753 535557
Datel Electronics Ltd 19 High Street, Old Town, Swindon, Wilts SN14 4EG	0793 488448
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Midi Misc Set of 3 Disks (too many progs to list) Pianoman, Pianoman Music (2D), Composer, Speaker Device Driver, Music Blocks, Music Librarian

CGA Games Pack

10 disk set of 40 Games inc., Pango, Pitfall, Qbert, Frogger, Mahjong, Galaxy, Life, Centipede, Joust, Dragons, Paratrooper, Space Commander, etc, etc.

Win 3 Music Pack

Boxplot, Cassette Caseliner, Guitar Scales, FM (Adlib & Soundblaster Edit), WinPlay, Win Music, MVP-Keys, Music collection Prog, Sounder with Samples, Toolbook Progs

VGA Graphics Pack

VGA Paint, VGA Cad, Desktop Paint, SPLOT, VGA Demos (2D), VGA Games (4D) - Mahjong, Bananoid, Shooting Gallery, VGA Jigsaw

EGA/VGA Games Pack

Captain comic, EGA Trek, Pinball, Commander Keen, Dark Ages, Othello, Moraffs Blast, Cunning Football, Mahjong, Daloman Depths, Space Flees, etc.

Win 3 Graphics Pack

Paintshop, 2,000 Icons (2D), IconDraw, BMP Mono Clip Art (4D), Screen Capture, Calendar for Corel Draw, GCP, Icon Manager, GIF2Icon, WinFem

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222 Tottenham Court Rd, London W1	
Dell Computer Corporation	0800 414535
Millbank House, Western Road, Bracknell, Berks RG12 1RW	
Diamond Computers	071 580 4355
232 Tottenham Court Road, London, W1.	
Digital Music	0703 252131
27 Leven Close, Chandlers Ford, Hants, SO5 3SH	
Dimension Computers Ltd	0533 517479/621874
Dimension House, High Street, Leicester, LE1 4FP.	
Dowty Information Systems	0635 33009
Newbury Business Par, London Rd., Newbury, Berkshire RG13 2PZ	
DS Computers	071 281 5096
Unit 206, Belgravia Workshops, 157 Marlborough Road, London, N19 4NF.	
Elonex	081 452 4444
2 apsley Way, London NW2 7LF	
Epson	0442 61144
Campus 100, Maylands Avenue, Hemel Ehmpstead, Herts, HP2 7EZ	
Evesham Micros	0386 765500
Unit 9, St. Richards Road, Evesham, Worcs, WR11 6XJ	
FMG Ltd	0733 371304
Newcombe Way, Orton Southgate, Peterborough PE2 6SF	
GST	0480 496789/496666
Meadow Lane, St ives, Cambridgeshire PE17 4LG	
Hayes Microcomputer Products Inc	081 848 1858
1 Roundwood Avenue, Stockley Park, Uxbridge, Middx UB11 1AE	
Hewlett Packard	0344 369369
Cain Road, Bracknell, Berks, RG12 1HN	
Highland Graphix Ltd	0355 264888
18 Albion Way, East Kilbride G75 0YN	
IBM	081 747 0747/995 7700
Freepost, London W4 5BR	
International Data Systems	071 436 2244
37-41 Gower Street, London WC1E 6HH	
Intraset Ltd	0257 276800
10 Woodside Ave, Clayton-le-Woods, Chorley, Lancs, PR6 7BR	
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Microtext	0705 5956947
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Miracom	0206 844834
Premier House, Telford Way, Colchester Business Park, C, Ess CO4 4QP	
Mitsubishi Electric UK Limited	0707 276100
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Newstar International	0245 265017
The Widford Old Rectory, London Road, Chelmsford, Essex CM2 8TE	
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Dear

PC review

Some tips for hapless Amstrad owners, strong views on RPGs, and interest in our European Championship cover disk demo are just some of the ingredients of this month's Letters page.

Back issues

I am inquiring whether or not it is possible to purchase previous issues of PC Review. If so, I would like to purchase March/April copies. Could you please inform me of the best way to do this?

M J Dale
Marston Montgomery
Derbyshire



Turn to page 87, and you'll find all the details you need for ordering back issues of the magazine.

Choices, choices

I've just read the letter from G Kent of Gloucester in PC Review Issue 8 and he is in a similar predicament to me, but I am having problems proving to a friend that PCs have a much wider range of functions than a Mac. Is my argument true or am I in the wrong? Please enlighten me on this.

Also I have recently bought Monkey Island 1 and 2. I've completed 1 and am halfway through 2, so I have started thinking about other games, and reading your reviews I have decided on Gods or Loom (not reviewed). Are these good choices and which would you recommend? I loved the demo of Gods on one of your cover disks, and if it is as good as your review it seems well worth getting. The kind of games I like are role-playing, with a touch of fast-moving action, like Gods or Golden Axe — what other games can you recommend?

Another problem I have is that I use my Dad's computer and he has a lot of business stuff like 1-2-3, Word and others, so to get Monkey Island 2 on the hard disk I had to delete or Pkzip on to disks a lot of stuff. However, we are again struggling for space with about 1Mb left so I have been wondering if you can increase the space on a hard disk or do you have to buy a new drive, or can you get an extra disk to work in conjunction with the old 40Mb disk?

Oliver Pyle
Buntingford
Herts



PCs and Macs have pretty similar functions in that they're both computers used extensively in the business community to automate

tasks. Macs have tended to be used more than PCs for desktop publishing and graphic work; PCs have always been the preferred choice for word processing,

database and spreadsheet functions. When it comes to games, the Mac can be pretty nifty, but it simply doesn't have the established software base of the PC, nor the upgradability and range of leisure-orientated add-ons.

It sounds as though you've seen enough of Gods to enable you to come to a decision; other games in this line are the forthcoming Magic Pockets (also from the Bitmaps) and Helmdall (reviewed Issue 7). Keep an eye too on the Classic Games section; Rick Dangerous 2 (Classic Game of the Month in Issue 9) sounds like the sort of thing you'd be interested in.

To give yourself more hard disk space, either replace the existing drive with a

bigger one, or add a new hard disk, or hard card as well as the current one.

This second is probably the better bet, since you and your Dad could then keep your programs separately on your own drives. Hard disks aren't too difficult to install yourself, but make sure you get a decent set of instructions when you buy the device (we did a First Steps feature on fitting hard disks in Issue 3). A hard card is an easier option; this is a hard disk on a board which fits into a free expansion slot.

Monkey hang-ups

I own an Amstrad 2286/40 computer and I have recently purchased the game Secret

RPG follies

It was nice to read a letter (from Martin Gower) in your May issue concerning Bard's Tale 2.

The reason for writing is to make, I hope, some constructive criticism on the 'modern' RPG games, which fall foul of an elementary piece of game-play which the older games all seem to have had.

Before I start, I freely admit that the newer games, like Eye of the Beholder, are at a different level than Bard's Tale and the even older Wizardry; the graphics, sound and ease of use make them marvellously atmospheric, and you really are swept into the programmer's world.

This makes it a pity when you are then abruptly jerked out of that world to restore your party because they have all been wiped out! Obviously this will happen in all games of this sort — there must be that element of 'risk' after all, but in the ones I've mentioned the restoration of your carefully nurtured characters took place *within the context of the game*.

In Wizardry, you had to form another party to go in and rescue the dead characters, and in that and Bard's Tale you then had to accumulate sufficient funds (or sufficiently powerful characters) to resurrect the dead. It was still part of the game, and a penalty you accepted for your folly in allowing your party to be wiped out.

In Eye of the Beholder though, there is no in-game mechanism to do this, you simply restore from your last back-up. To make things even worse, it is simply impossible to complete Eye without being wiped out many times over, often in a completely arbitrary way through no fault of your own. In fact, in a lot of situations you can only succeed by repeatedly restoring and waiting for combats to go your way by chance. To me at least, this completely destroys the rapport you have built up with your team and ruins the involvement; I felt no sense of achievement on completing Eye, just the feeling I had completed an assault course by sheer perseverance and mechanical 'cheating'.

Anyway, that's my moan out of the way. It's just a little plea to ask that the programmers in future try to keep in context of the escapist world, and don't allow the outside world to intrude; that's what we play games for, isn't it?

Paul Hemmings
Newcastle Under Lyme
Staffordshire

of Monkey Island 2. I loaded the game on to hard disk with no problems and played the game. The difficulty comes when I try to save a game or load a saved game. Initially it wouldn't save a game without causing the computer to lock up.

I reinstalled the game, making sure I had a spare 1.2Mb of space on the hard disk. This time the computer would lock up after saving two games or when I tried to load a saved game.

I'm getting rather bored playing the same part of the game all the time. Can you help? Is it the software or the computer?

A R Chappell
Brize Norton
Oxon



US Gold says that the only consistently reported problem with Monkey Island 2 has been difficulty in running the game if you have DR DOS

6 with an early version of the hard disk space saver Superstore. You don't say what operating system you're using; if it is DR DOS with Superstore, then you'll have to delete Superstore, or get a final version of it. However, I suspect it's far more likely that this isn't the root of your problem, and US Gold also says it sounds more like a faulty disk which needs exchanging.

CD-ROM Review?

I've been buying your magazine for every issue now, but just lately you've started reviewing more CD-ROM games than PC games. Maybe your magazine should be called CD-ROM Review instead of PC Review.

In your QED section I think you have too many help sections for RPGs. I'm not a fan of RPGs, so it gets a bit boring to open up your magazine and find pages of help for RPGs. Could you try to include some cheats for platform and arcade games?

Michael Parkinson
Peterborough



Oh Michael, come on. Reviews of titles on disk consistently outnumber reviews of CD-ROM titles by four to one, and we'll

continue to review as much disk-based and CD-ROM software as we possibly can.

OK, so we published fairly detailed tips for Eye of the Beholder II, but I hope you've also noticed the extensive maps for Gods, which in anybody's book, counts as an arcade-style game.

Actually, I can appreciate the feeling that the PC world is made up of PGs and flight sims and that arcade games get overlooked. The fact is that arcade games on the PC are still a relatively new phenomenon and there aren't proportionately as many of them as there are on other formats. As the PC becomes

more and more established as a leisure computer, you should see greater numbers of all types of game appearing.

Speaker's corner

After recently smashing my piggy bank to bits and paying a terrifyingly huge sum of money to upgrade my old 16MHz 286 machine to a 40MHz 386DX with 64K cache and 4Mb RAM, I was greatly impressed with the performance of my favourite games — I no longer felt the need to get out and help Jim Kirk give the Enterprise a push!

Additionally, with the 'new' system came a surprise bonus — my new PC speaker (I couldn't afford *all* the above *and* a sound card) now produces a sound far superior to the old one. I could at last hear, clear as a bell, Chuck Yeager welcoming me to Air Combat and telling me what a great day for flying it was, and all too often I could hear the commentator on Links Golf telling me it looked like my balls were bouncing off the trees.

With the sound of Star Trek's phaser fire echoing round my skull, I set course for my local department store with the intention of giving my self a treat and picking up a game that would really stretch my new system. Reading the blurb on the back of the box, and remembering the wold things proclaimed about it, I opted for a copy of Wing Commander 2. Naively, I imagined that even without a sound card, the music and effects, etc, wouldn't be too bad. At least, I hoped, it would be on a par with Star Trek.

What did I get from this memory-hungry, ground-breaker of a game, that costs so much money (and time, and memory, and memory, and memory and ...) to play? Almost total silence.

A few gritty sounding belches from the speaker when you fire your weapons is about the best you can hope for.

Surely it doesn't take much effort on the part of the manufacturer to take the poor old PC speaker into account when producing these games. Even if it does, when you're paying about £40 per game, then isn't the customer worth it? And even if we're not, I for one wouldn't object (more than I already do) to paying a little more cash for a little more product.

Meanwhile, can you or any other readers recommend a decent game or two that might seem to fit the bill?

P D Godden
London W3



Wing Commander 2 is definitely a game meant to be played with a sound card — or two. The more realistic sound effects to come out of the PC

speaker tend to be the grinding engine noises you associate with driving games or flight sims, but they also tend to irritate the hell out of anyone else in the house not actually playing the game. However, the Bitmap Brothers usually program in some

reasonable speaker sound in their games (Cadaver, Gods, etc, etc); Tracoon, which is an air traffic control game from Mindscape is pretty good in this respect, and also Dark Seed (reviewed Issue 9) makes good use of the speaker for speech.

Elite's yellow card

Being the mad Spurs fan that I am, I just had to write to you about the demo of European Championship Soccer 1992 that came with PC Review Issue 8. This game has the most incredible playability level that I have ever experienced. I would immediately part with the money to buy this game if it were not for one crucial aspect — sound.

I am hoping that the demo was a pre-release version and that Elite has got enough common sense to include speech and other vital sound effects. Let me give you two examples: a) the referee's whistle and, b) the crowd noise. These were so bad that I had to turn my Sound Blaster off for fear of ruining my enjoyment of such a fantastic game!

If Elite does not come to its senses I am hoping that the reviewers at PC Review can lean on them sufficiently enough to persuade it to get its act together.

Martin Emery
Hillingdon
Middlesex

Man of the match

I thought your June issue and was extremely pleased with European Championship Soccer. It is easily the best footer game on the PC and I will definitely be buying it when it comes out. Now to get to the point, my friend owns an ST and can not stop raving on about how superior the games are compared to the PC. I own a 386 20Mhz and feel I am able to enjoy far superior graphics and depth of gameplay and with games like Monkey Island 2 and the Ultima series I can't help but feel that the PC far overshadows the puny ST. Also the PC is far more versatile than the ST.

Please will you print this letter so I can finally shut my misinformed friend up. Finally, can you recommend a good flight sim that I can buy?

Ian Lewis
Birmingham

Amstrad upgrades

Reading through the letters and Q&A pages of Issue 7, it seems that I have been around most of the problems at one time or another. I started with an Amstrad 2286 a couple of years ago and moved to a 2386 last year. Perhaps you would let me share my experiences with your readers.

Amstrad upgrade: the best advice on upgrading an Amstrad 2086 or 2286 is *forget it*. Amstrad will only sell the motherboard for these machines on a one-for-one, like-for-like basis and they will not deal with end users, so there is no joy to be had

there. Because of this policy, its agents and maintenance companies are also unable to sell or exchange a motherboard, another dead end. As was correctly stated in Q&A Issue 7, Amstrad uses a non-standard form factor (size and shape) for its motherboard. It is therefore unlikely that any of the replacement motherboards currently available will fit into the case. Screw holes and support pillars will not line up, expansion board outlets will be in the wrong place, plugs and sockets will not match, etc.

Even if another motherboard was fitted, it is a matter of conjecture if the BIOS will work successfully with the DOS supplied with the original system. It is also unlikely that the replacement board will be fitted with a Paradise 256K SVGA controller, which is built into the Amstrad motherboard, so add another £50-£100 to the cost of the upgrade. At the end of all this, the system may or may not, if it works at all, certainly no repair organisation will want to touch it with somebody else's barge pole if it ever goes wrong.

Why go to all this trouble and expense to get an Amstrad 2386? Crown Computers will throw a mono one in for free if you buy Lotus 1-2-3, freelance Graphics and Ami Pro v2.0 from them. That little lot amounts to about £600, only a little more than the messy upgrade, and you have a system most small companies would be quite happy to have. Take the high resolution monitor off the original system and put it on the 2386 and sell the original to somebody who wants a word processor with a mono screen. You then have a cheap, by any standards, upgrade with a year's warranty thrown in.

Amstrad mice and Windows: anybody who is thinking of installing Windows 3.x on an Amstrad 2x86 with the Amstrad mouse is in for a nightmare time. The cursor arrow will go all over the place, click boxes will shudder or blank and it will seem the worst thing you have ever undertaken. The reason is that Windows expects a Microsoft-compatible mouse on a serial port, not one on a proprietary port. The

mouse driver Mouse.com, written by a company called MEJ, and probably at Rev 5.0c, is the root of the problem. Edit the file and look for a line with that information towards the end.

A call to Amstrad's technical support on (0898) 808181 will get you a copy of the program Mousefix. This converts Mouse.com into Mouse.sys, now at Rev 7 or above, which is started by Config.sys, when all will be well. Yes, you will have to pay for every minute you are on the phone with the 0898 number, but you do get through almost immediately and they don't waste your time, a bit different to waiting 15-20 minutes for a Microsoft support person.

Soundboards: unless you want to be another Handel and turn your PC into the Albert Hall organ, you can enhance gameplay with the Media Music board from Evesham Micros. It comes with the naftest juke box program one is ever likely to want to meet. That apart, it is Ad Lib compatible and has a built-in amplifier and volume control, so the speakers supplied with it, or headphones, can be plugged in directly. Using headphones on something like Red Baron is an experience I can really recommend.

I am still trying to work out why a PC magazine should have *two* reviews of an electric bike. However, the game and flight sim reviews are great and I look forward to a preview of the Red Baron missions due out later this year.

Roy W Lavis
Fleet
Hampshire



As a quick footnote to your mouse advice, Amstrad's 0898 number is charged at 48p per minute at all times.

As for the pieces (hardly reviews, really) on Sir Clive Sinclair's Zike, I'm afraid both the editor and news editor are old fogies who fondly remember the days when Sir Clive was the very

embodiment of the UK home computer industry, and we felt many of our readers would also feel nostalgic enough to want to know what he's up to now. Adam Moss (see Star Letter, page 141) knows how we feel, anyway.

Space savers

For a long time I have been looking for an RPG game. I like the look of Ultima Underworld, Eye of the Beholder II and Monkey Island. My dad uses the PC for work and he says I have a maximum of 5Mb hard drive space. Could you recommend an RPG game for me?

Ryan Linfoot
Newbridge
Midlothian

Every issue we get a letter asking for RPG recommendations, and we always seem to end up with Eye of the Beholder. There's no way you'll squeeze Ultima Underworld into 5Mb; the minimum space it will take up is 8Mb (it also requires a 386SX or more powerful PC to run). Monkey Island is a humorous adventure rather than an RPG, strictly speaking, so it depends what your preference is here.

I'm all right, Jack

I am getting fed up with reading letters from people having trouble running Wing Commander II. I have a 386 running 40Mhz, 130Mb hard disk, 3.5 inch disk drive, super VGA monitor and 4Mb memory and it runs completely all right.

Simon Page
Seaford
East Sussex

Let me recommend you a book. It's called How to Win Friends and Influence People...

WINNERS

Flying lessons (Issue 7)

Sorry to announce the winners for this competition an issue later than expected; all winners should have received prizes (and made use of them) by now. Helicopter identification is obviously a popular pastime for many of you: a good post-bag with a high proportion of correct entries.

Our big first prize, a day at MicroProse plus a helicopter flying lesson, was won by **Mr G B Fergus** of Wolverhampton, so many congratulations to him. The following five people won tickets to the Air Tournament International 1992, plus that all-exclusive MicroProse T-shirt: **K S L Tilbrook**, of Redcar, Cleveland; **Stephen Tankel**, of Elstree, Herts; **Nicholas Darters**, of Bishopbriggs, Glasgow (we think - the handwriting could have been clearer); **G J Olsson**, of Dorking, Surrey; and **Richard Parker**, of Acomb, York.

Finally, the winners of Gunship 2000, plus T-shirt, were: Paul Maskell, of Watford, Herts; Piers Wilson, of Enderby, Leics; Ian Krauesslar, of Basingstoke, Hants; Huw Davies, of Newport, Gwent; and Philip Mynors, of Rowlands castle, Hants.

The correct answers were that the AH-64A Apache was picture B; the AH-1W Supercobra was E; the OH-58D Kiowa Warrior was A; the UH-60 K/L Blackhawk was C and the AH-6G Defender was D.

Our starter for ten

Just a few questions. I hope you can answer them. 1) Is Robocod coming out for the PC? 2) What is the best sound card available at a realistic price? 3) How good is the compilation Top League? 4) What is the best platform game available for the PC? 5) What is Dr Dos 6? 6) Is Sensible Soccer coming out for the PC? If not, are there any other good football games available? 7) Will classic console games such as Sonic the Hedgehog or any of the Mario games be making an appearance on the PC?

Daniel Willis

Bradford-on-Avon
Wilts



- 1) No plans for a PC Robocod at present, I'm afraid.
2) Well, Roy Lavis (above) reckons that Evesham Micro's Ad Lib compatible Media Music

card is a decent buy.

3) We don't know about Top League.

4) A quick straw poll round the PC Review office resulted in a dead heat between Gods and Prince of Persia.

5) Dr Dos 6 is, to give you its full monicker, Digital Research Disk Operating System version 6; it's an alternative to Microsoft's MS-DOS which uses the same syntax (commands) and is compatible with it, but has some memory management and configuration features which can make it easier to use than MS-DOS.

6) There are no firm plans for Sensible Soccer to be released on the PC yet; other football games which are available are Kick Off 2 (a poor implementation on the PC); Manchester United (better, and now available for £11.99), and European Championship 1992 (see the review elsewhere in this issue).

7) Mario is due to appear in titles on the PC, courtesy of Mindscape, sometime next year, but these won't be conversions of existing Mario titles. No plans surrounding Sonic, as far as I know.

PC Review welcomes letters on any subject under the PC sun. The editor will chop them to fit the space if need be, and we'll assume letters are to be considered for publication unless you specifically state otherwise. Send all correspondence to Letters, PC Review, EMAP Images, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. If you have access to CIX (Compulink Information Exchange) you can send your letters to our mailbox - our ID is pcreview. Star Letters win software prizes!

ON THE SPOT

PC Review arranges regular visits to the UK's top PC companies, taking with us a selection of readers who have filled in the form below. This gives you the chance to talk to various movers and shakers within the industry: interview them, ask them about their PC plans, how they design, write, produce their games, why PC games are so expensive (you might as well, everyone else asks that). The exact nature of the visit, and the degree of formality, depends on the companies concerned, but you usually get a chance to see some sneak previews of forthcoming products, meet the programmers, and have a guided tour of company HQ.

A full report of the visit then appears in a later PC Review - useful for those who didn't go, because they'll read the answers to the questions *you* asked. In other words, the issues which you, the readers, care about, rather than we think is important.

Next month, you'll be able to read about our trip to Microprose, the flight sim specialist (yes, really, this time!).

If you want to take part in an On the Spot visit, fill in the form below and send it to: On the Spot, PC Review, EMAP Images, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

Note: we don't take very many people at any one time, so that if selected, you'll have every chance to have your say. Because of this, the places get filled quickly, but we'll be doing return visits to all the most popular companies. If you miss out the first time round, sit tight, because another visit to the same place will come up and we don't throw your forms away.

Name.....

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Daytime tel no:.....

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Age: Under 16 ☐ 16-25 ☐ 25-40 ☐ Over 40 ☐

NB if you are under 16, please get your parent or guardian to sign this form as well giving their consent for you to take part.

Which company would you like to visit?

Domark ☐ Virgin ☐ Mindscape ☐ Bitmap Brothers ☐

Psygnosis ☐ Other (if applicable)

.....

Any particular reason for your preference(s)?

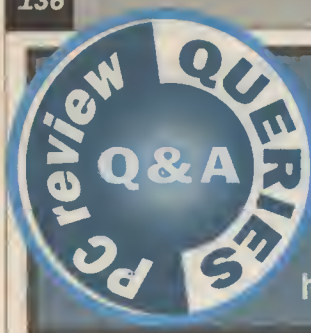
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PC Review August 1992



Bemused, bothered or bewildered about the mysterious workings of your PC? Confused by hardware options? Stricken with software seize-ups? Share your problems with Q&A's Mike James and he'll endeavour to help.

Shades of grey



Please could you recommend a not so expensive hand scanner or digitiser for a PC 286? It can be grey or colour.

Richard Wakefield
Camberley
Surrey



A really difficult question! The difficult part lies in your final sentence — "grey or colour".

Hand scanners come in three sorts — binary, grey and colour. Binary, 1-bit or monochrome scanners only distinguish two tones — black or white. Strangely, binary scanners can be used to scan grey scale images but only by using a technique called 'dithering'. A dithered image sometimes looks good but it is almost impossible to edit — so keep away from binary scanners even though they are cheap. When it comes to colour hand scanners I can't say that I have found one that is sufficiently flexible or high enough quality to be usable. The reason is that they have all only managed 200 dots per inch (dpi) resolution and 300dpi or more is better. When it comes to grey level hand scanners you need an 8-bit 300dpi scanner. As long as the model comes up to this standard then the only thing that matters is price. However you might also be interested in what software the scanner is bundled with. If you need a scanner plus image editing package then you should look around for a good deal on the Logitech ScanMan 256 hand scanner which includes the excellent Ansel editing package. Otherwise buy the cheapest 8-bit 300dpi scanner you can find and a copy of ZSoft's PhotoFinish.

Laptop graphics



I have just bought a Toshiba T1000 laptop computer, and as we all know, they only support CGA graphics. My questions are these:

1) Is there anyway to get the LCD screen to produce more than the CGA by adding a card or chip? 2) If not, is it possible to add a card or chip to get more than CGA by hooking it up to an external VGA or SVGA screen?

Andrew Drinkwater
Lymm
Cheshire



This is another one of those "in theory all things are possible" type answers. The T1000 does have an expansion port and the

manual explains how Toshiba has built in the possibility of adding external hardware but as far as I know it hasn't done it yet and I doubt it ever will. The T1000 is now a low-cost portable because it only supports CGA, so adding such specialised extras would probably not be cost-effective. In addition, the T1000 is based on a fairly slow 8086 processor. While this is plenty fast enough for CGA resolution, and for most uses that a portable is put to, running VGA/SVGA and associated applications would almost certainly reveal its weaknesses. The T1000 is an excellent portable at a good price, but don't try to push it beyond its limits.

Perfect programming

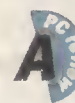


I have been a keen programmer for a number of years now, but I have only used the BBC's at school and BBC Basic.

I have a Quickbasic, BBC Basic and GWBasic on my PC (a 386SX with EGA Monitor) but I would like to learn to program in machine code on the PC. Is there such a thing and, if so, is this what games programmers use to produce games like Gods or Eye Of The Beholder?

Please could you direct me to a book or program that will allow me to program properly on my PC?

P Gardener
Falmouth
Cornwall



Learning to program in assembler, ie, machine code, is a difficult task. There are similarities between all programming

languages — they all have loops and IF statements — but the number of assembly language instructions needed to achieve even a simple action is huge. Assembly language has only one advantage — it's very fast. Most programs that need speed, such as games, compromise by using a medium level language, usually C, to write the bulk of the program and then just assembly language for the sections that need the extra speed. There are a large number of books on 80x86 assembly language but you not only need to master this but a great many other aspects of how the PC, its graphics and sound, work.

In other words, you need to know not only the language but something of how the machine is constructed. This all adds up to a long apprenticeship. So, where do you start? My advice would be to get hold of a good C compiler — Borland's Turbo C or Microsoft's

Quick C are both good choices but there are other lower cost options — and a book on C. As you learn to program in C you will also begin to understand some of the important features of the machine and its graphics.

Mystery PC



I have recently bought a PC, and there are some things that I am not quite sure about:

a) My PC has got "M290" on the front of it. What speed is this, and is this fast?

b) Do all games have to be installed on my hard drive?

Andrew Curran
Heston
Middlesex



The M290 is just a maker's model number for the machine and you cannot deduce anything from it unless you consult the maker's specification for model M290. No, not all games have to be installed on a

Where does CD sound come from?



Please help me! I am a confused man thinking about purchasing a Sony CD-ROM laser centre. I have been reading a number of articles in a number of different magazines. I have a few questions which I would be most grateful if you could answer. Well, perhaps "a few questions" is an understatement.

1) If I connected a CD-ROM to my IBM PS/2 would I be able to connect it to my stereo system using the audio output connections at the back of the CD-ROM?

2) If I did this could I produce the high sound quality this way, bypassing a sound card?

3) What is the headphone socket for? Do I plug my headphones in here and then hear the high sound quality?

4) The Sony CD-ROM is able to play audio CDs. Where does the sound come out of? Is this what the audio sockets are for?

5) Wing Commander has been released on CD. Does this speed up the play or slow it down? My version on my 16MHz is very slow. Would the digitised speech then come out of my hi-fi using the audio sockets or do I still need a sound card? Will a pair of headphones do the trick?

6) What is the main advantage of a CD?

7) Is it worth buying one, or better to wait to see if the prices fall?

8) Nothing to do with CDs: how do I speed up my machine? Is it possible to replace the motherboard by so I can make it faster by inserting a 486DX?

Richard Powell
Bridgwater
Somerset



The first thing to say is that a CD-ROM is not a replacement for a sound card. A program that needs a sound card to produce its sound effects needs a sound card no matter where it is loaded from — hard disk or CD-ROM. However, some programs

hard drive but they load faster, and might even run faster, from a hard disk copy. Hard disks make using a program a more convenient, but if a game is small enough to occupy only a single floppy, ie, you don't have to swap floppies while running it, then it might be worth saving the hard disk space. However, an increasing number of games do have to be installed to a hard disk before you can run them.

Processors in a twist

PC Review Q Wanting to buy a new computer I have a slight problem choosing between a 386-40 Mhz and a 486-20 Mhz. In Issue 6 you explained that a 486SX is a 486DX without its math co-processor which actually makes it a 386DX. What's the difference? Is the 486SX fully downward compatible? Which one is the faster? Are there any differences in what they are good at? Is the 386, for example, better at handling graphics and the 486SX better at calculations? Which would you rec-

ommend, considering that I primarily use the computer for word processing, Excel and, of course, games.

Morton Koldes
Aalborg
Denmark

PC Review A A 486SX-20Mhz is functionally the same as a 386DX but with the difference that it is faster. The 486 is a re-design of the 386 so that it runs the most common instructions in half the time. There are slight differences between the 386 and the 486 but in all practical senses they can be considered identical — I don't know of a program that will run on the 486 and not on the 386 or vice versa and I don't think anyone will ever want or need to produce one. So the only reason for preferring a 486 is speed and a 20Mhz 486 is roughly the same processing power as a 40Mhz 386. You should therefore choose between the 20Mhz 486 and the 40Mhz 386 on the basis of price or any other extras included in the system as they are roughly equivalent in processing power.

Keeping memory

PC Review Q I have a 20Mhz 386SX based system with 1Mb expanded memory via the DOS 5 Memory Manager EMM386. I'm considering upgrading to a go-faster 486DX board, but I am not clear whether there will still be access to expanded memory, ie, does EMM386 work with a 486?

GP Ellard
Leigh-on-Sea
Essex

PC Review A Yes, you will still be able to use expanded memory. There is no difference between a 386DX and a 486 other than speed.

Twin joysticks

PC Review Q Please could you tell me how to connect two joysticks up to my PC. I have a 100% compatible PC, with a Multi I/O card which has one joystick port. The instruction manual tells you it is possible to connect two joysticks with this card, but does not tell you how. Both joysticks have 15-pin plugs.

Michael Marshall
Herne Bay
Kent

PC Review A For once I can provide a simple answer. The standard 15-pin joystick socket supports connections from two full X, Y positioning analog joysticks — Joystick A and Joystick B. In most cases when two joysticks are used they are already combined into a single unit, such as a flight yoke, and the 15-pin plug is wired correctly. If you have two separated joysticks then the problem is that they are both wired to separate 15-pin plugs as Joystick A. The solution is to buy a Y adapter which is available from most computer dealers. This splits the single 15-

pin socket into two 15-pin sockets suitable for connecting a pair of standard joysticks — one as A and one as B.

Variable speeds

PC Review Q I own a Phillips PCD300 series 386 with 5Mb RAM. It's documented to be 16Mhz but I have a number of programs to measure the speed of the processor. One program measures the speed as 19.4Mhz. Another says that it is 1.63mips and PCTools reads it as 730% faster than the original AT. What is the actual speed of my processor?

I found after playing F29 my processor speed increased to 20.1Mhz, 1.75mips and 750% increase from an AT. How does it do this?

Also I was wondering if it would be possible to make a program reproduce this effect? My dad thought I was mad loading F29 every time I turned the computer on, but I found it a great help when playing Space Quest IV and Monkey Island 2 to make them just a little bit faster.

Stewart Badger
Escrick
York

PC Review A The clock speed of your machine is 16Mhz, no matter what you might think that the testing programs are telling you. The point is that the actual speed of a machine depends mainly, but not exclusively, on the clock speed. There are a range of other smaller factors that affect how fast a program runs — how the memory is configured, the speed of the video card, etc.

What the testing programs are measuring is how fast the clock speed of a standard AT, a known design, would have to be increased to run programs at the same speed as your machine. This takes into account these other factors and so you can discover that you end up with a clock speed rating higher or lower than your machine's actual clock speed. In this case the 19.4Mhz is an estimate of how fast an original IBM AT would have to run to match your machine — not an estimate of your machine's clock speed.

Now what about the change in estimated performance after F29? Programs can and do alter the setup of a machine to get the last Hz of performance and F29 does this. However the change from 19.4 to 20.1 represents a 0.036% speed increase and I am very surprised if you actually notice this tiny effect!

Don't forget if you have any answers or ideas to help other PC Review readers, drop us a line and we will publish them. Send your letters to Q&A, PC Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. If you have access to CIX, the Compulink Information Exchange, you can send your query to us there — our ID is pcreview.

that are supplied on CD-ROM do include digital audio that can be heard via the headphone sockets or played over a hi-fi connected to the audio outputs without a sound card. For example, if you run the multi-media version of Beethoven's 5th you actually hear the music over headphones or on a suitably connected hi-fi and you don't need a sound card. You can even hear digitised speech without a sound card but any program that actually needs a sound card will still need one.

You can play audio CDs on a CD-ROM but only if you have suitable software to do the job (as with the Sony unit). The sound comes out of the headphone socket or via the hi-fi connection. As the tracking abilities of a CD-ROM drive are better than a standard audio CD drive you may find that you can play damaged CDs with more success on a CD-ROM drive.

A CD-ROM certainly will not speed any existing software up and its advantages are nothing to do with speed!

So should you buy one now or wait? The answer really depends on whether there is any CD software that you want to run now rather than later. If you like to listen to music while working at your machine then an internally mounting drive can be as cost effective as an audio CD unit and marginally better if you shop around. Get hold of a copy of Optech CD-ROM News (phone 0252 714340) to see if there are any CD-ROMs that would be useful to you. Will the price fall? Almost certainly, but how quickly and by how much are much more tricky questions. At the moment the price is reasonable but quite a way from rock bottom.

I'm afraid that with the PS/2 the best thing you can do is to get rid of it and buy another PC. I'm sorry to sound so cavalier, but IBM's PS-designated machines are not at all easy to upgrade paradoxically, although they are IBM's own machines, they are not as 'standard' as most third party PC-compatibles). You may be able to wangle a DIY upgrade; it would in all probability be more expensive than replacing the machine. However, at 16Mhz, your PS/2 isn't quite a snail, is it?

Football crazy

Watching the two week long Sega advertisement — sorry, I mean ITV's coverage of the European Championships — one couldn't help but be struck by the affinity that computer firms and football enjoy. Commodore has long been a supporter, with its name emblazoned on Chelsea's shirts, and also those of Dynamo Kiev for a while, while Crystal Palace, of course, went from being Virgins one season (all right, the airline, not the games publisher) to Tulips the next.

Who said that?

From there it seems but a short step to adopting one of the football fanzine's staple favourites: Things They Never Said. Such as:

"Of course, the game of the film never quite catches the feel of the original movie" — Ocean Software

"Kick Off 3 will retain all the playability and high quality graphics of its predecessor on the PC" — Anco

"Our new PC has been designed to be absolutely standard — you'll be able to upgrade any part of it with any other PC-compatible components" — Amstrad

"It's important that Ultima VIII should run from floppy disks on a 8086" — Richard Garriott

Any more, anyone?

Hello, and welcome

There were 25,000-odd visitors to the Spring Computer Shopper show and it felt as though most of them visited the PC Review stand at some point during the four days. To everyone who came by to praise, criticise, or just for a chat — it was good to meet you and hear your views.

Behind Holobyte

The long-running saga of Robert Maxwell and his missing millions throws up new implications by the day, leaving virtually no field of business unscathed. The PC software market certainly isn't immune, particularly since the national press has of late pounced on the fact that the Liechtenstein-incorporated Maxwell Charitable Foundation owns 80% of "Californian games company" Sphere Inc, which is still trading.



Those who claim some passing acquaintance with computer games may be curious to know just what titles Sphere Inc has released — it's hardly a household name. Perhaps the name Falcon 3.0 will jog a few memories. Yep, Spectrum Holobyte is a publishing label and trademark of Sphere Inc, and became so in 1987, when Robert Maxwell created Sphere from two existing companies, Holobyte and Nexa.

What's in a name (part 2)

Last month Quit mused fairly pointlessly about some of the more appropriate and not so appropriate names used in computer games for its heroes and villains. Further aimless pondering in the light of recent releases produced the following inexplicable monickers. As the man constantly exhorted to beam people up, Montgomery Scott is an essential presence in Star Trek — what's he doing in Epic (see this month's review)? And in Eternam, that oh-so-chic French romp (see page 58), your mentor, muse and mystic siren is called, of all things, Tracy. But the Quit favourite dates back a few months now: in the same incongruous league as King Graham of Daventry, French developer Delphine decided that the piratical One-Eyed Jack (shades of Twin Peaks inspiration here) in Cruise for a Corpse just wasn't piratical enough for German and Italian players, and thus he became the much more menacing One Eyed Gary. What are the French on?

He's showing what?

Hot on the heels of last month's (very minor) competition we see jolly Dominik Diamond, presenter of Channel 4's Gamesmaster programme, showing off his, well, what is it exactly that he's showing off? Ideas, suggestions, crisp captions, please, and the best one that we can print without blushing will win some software. Send entries to PC Review Captions 2, EMAP Images, 30-32 Farringdon Lane, London EC1R 3AU.



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"...for many recent releases a 386 PC is a minimum requirement." PC Format '92

It is a simple fact of computing that the more information you try to process the slower everything becomes. Not much fun when the subject is Gunship 2000 in glorious 256 colour graphics. Try playing the latest generation simulations on a 286 for example. The graphics are very 'jerky' and the response is frustratingly slow. The effect is unconvincing and not worthy of simulator status.

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